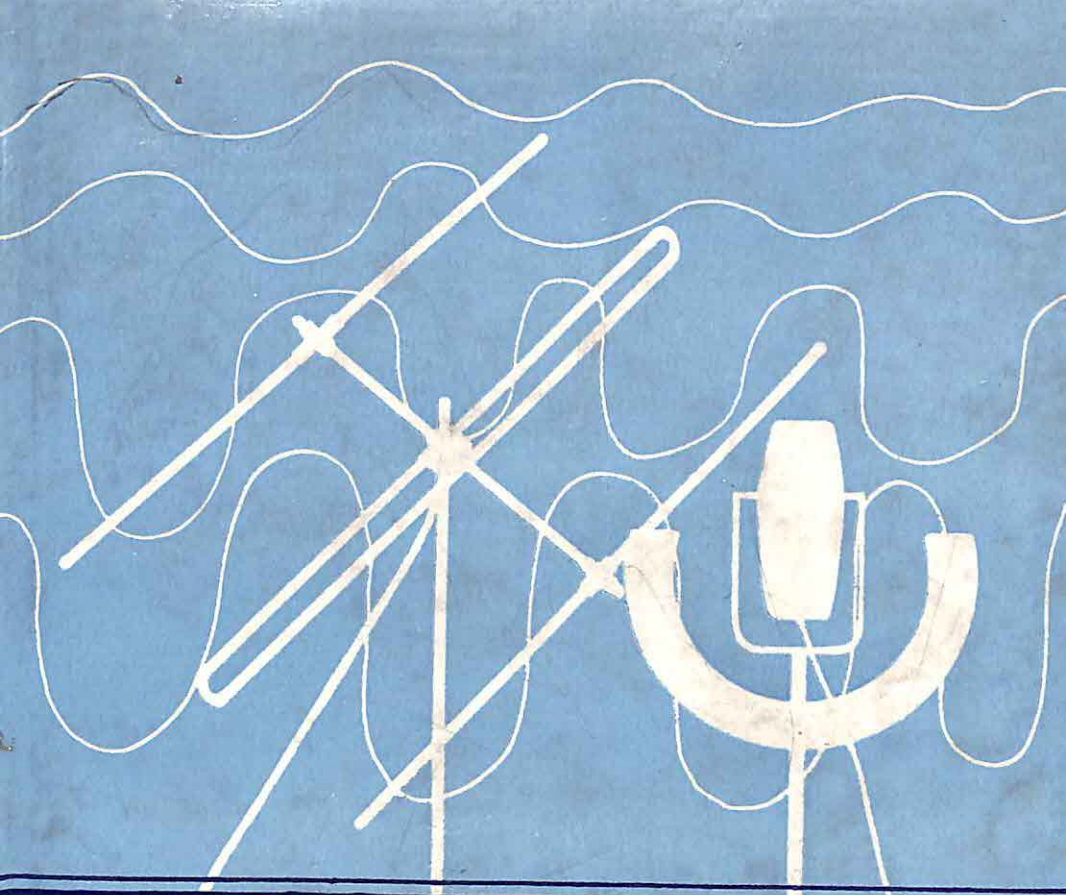

EDUCATIONAL BROADCASTING

Radio and Television in Education

J Mohanty

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RADIO AND TELEVISION IN EDUCATION

EDUCATIONAL BROADCASTING:
Radio and Television in Education

J. MOHANTY

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FOREWORD

There are no frontiers to learning. Education today is neither confined to the claustrophobic atmosphere of the classroom nor does it end with formal schooling. Education is life-long and continuous.

In these circumstances the traditional curricula and methods become obsolete and meaningless and the media like radio, TV, films, audio and video-cassettes have an important role to play to broaden the horizons of learning.

Programmes for children in All India Radio started more than fifty years ago. But school Broadcasting as such began only in 1932 and of course TV came in with school television much later in 1960. It must be said to the credit of Indian television that its very first telecasts were educational in content. 1975 was a significant landmark in Indian broadcasting with the advent of satellite television. The satellite Instructional Television Experiment (SITE) was indeed a leap forward in the use of high technology for mass education and instruction.

With so much of experience behind us in the handling of media for education, it is unfortunate that, in this country there has been very little attempt on the part of many of us to get involved in this business of educational broadcasting, to bring together, in a comprehensive manner, the salient features of our experiences in the use of media for education and instruction.

Dr Jagannath Mohanty's well researched book is not a day too early. He has chosen a wide canvas. Starting from the national priorities, he deals with the development of educational broadcasts both in radio and television at length. The chapters on script writing for radio and television are also well handled and are based on his personal experiences in running training courses, conducting research studies and bringing out publications in the field.

Dr Mohanty discusses the role of radio and TV as a component of educational technology and in teacher training. This is an important chapter as it is common knowledge that many school systems pay only lip compliments to school broadcasts and hardly even utilise them.

It is hoped that this book by an eminent educationist will encourage the powers that be to have a fresh look at the problem of 'utilisation'. There are four chapters covering the experience of the BBC in educational broadcasting both formal and non-formal including the Open University. There is a concluding chapter on 'INSAT'. The first attempt had an unfortunate setback. Let us hope that the second satellite in the INSAT series will be up in space by the time this book appears in print.

Dr. Jagannath Mohanty is a prolific writer on educational topics. He has succeeded in making this book broad-based and comprehensive. I am confident that this volume will be welcomed by all those who are interested in the use of Media for the betterment of our educational standards.

MADRAS
14th April, 1983.
Vishw Samkranti

P.V. Krishnamoorthy,
Former Director-General, A.I.R.
and Doordarshan.

PREFACE

First I would express my heartfelt gratitude to Mr P.V. Kirshnamoorthy, the Former Director General, All India Radio and Doordarshan for writing the Foreword for this book. It would be impossible to get a more competent person than Mr Krishnamoorthy, who is credited with vast experience and great expertise in both the media—radio and television, really a unique and rare combination. His Foreword has not only enriched this book but also served as an introduction to it.

Mr Kirshnamoorthy has aptly said, "There are no frontiers to learning. Education today is neither confined to the claustrophobic atmosphere of the classroom nor does it end with formal schooling. Education is life-long and continuous." Different media like radio and television are to be utilised intensively in the field of education to make it more relevant and meaningful. Education of today cannot be made effective as well as efficient for the citizens of tomorrow without the support of these twin powerful media—radio and television. All-out efforts have, therefore, been made by the different governments throughout the world. Educational broadcasting has been utilised for accelerating the pace of national development in general and for bringing about qualitative as well as quantitative improvement of education in particular. It is a prospective and potential field for all the developing countries including India.

There are in all twenty chapters on various aspects of educational broadcasting. These may be divided into five categories according to these aspects (i) Historical perspective, (ii) Planning, (iii) Production, (iv) Utilisation and (v) Evaluation and Research. Since all these aspects are interrelated, the individual chapters are overlapping and materials are interwoven. There are, therefore, no water-tight compartments in the treatment of the content.

Under the historical perspective, development of educational broadcasting in India has been discussed in two parts: one in relation to radio and another concerning television. In the first part attempt has been made to present facts and figures relating to the growth of educational radio programmes in our country intended for secondary schools, primary schools, university students, non-formal education, adult education, teacher education, correspondence courses, special pilot projects and so on. The administrative and advisory infrastructure for planning, production and evaluation, various problems faced by different agencies and probable solution have been discussed. In the second part development of educational television has been projected with special reference to initial attempts of television Programmes at Delhi, SITE project, terrestrial transmission and INSAT. The chapter "Educational Broadcasting: National Perspectives and Priorities" is important from the planning and production point of view. In this chapter the endeavours made by the national and international agencies, national priorities and policy for planning, management and production of educational radio and television programmes have been discussed as comprehensively and precisely as possible.

In another chapter "Radio and Television as Media of Mass Communication", the historical development of these two media and their place in the communication has been described in general and not with reference to education only. In the chapter "The British Broadcasting Corporation and its Educational Broadcasts" growth of the BBC and its School Broadcasting Council, cooperation between two media and role of teachers in the system has been presented; in the chapter "Educational Broadcasts for Adults in the UK and the Lessons for India" discussion has been made on the nature, modes and kinds of programmes for adults and what we can learn from this, in the chapter "What should we learn from the BBC" an attempt has been made to point out the salient features of this world-famous organisation like its autonomy and

freedom, planning strategies, modes of utilisation, evaluations and feedback cooperation and coordination between radio and television and the lessons that we can get from it; in the essay "The Open University, A Remarkable Achievement in Educational Technology", the historical background of this world-renowned organisation, its course design and curriculum components, radio and television broadcasts, tutorial and counselling services, local study centres, research and feedback have been discussed in detail.

These chapters of course have immense historical significance, and these discussions would be useful for planning and producing our own educational radio and television programmes. Attempts have been made to highlight the areas in which we need improvement in our existing system and where we can emulate the practices that are prevalent in agencies of universal distinction like BBC and Open University. The chapters "Educational Radio Programmes and Scriptwriting" and "Writing for Educational Television" are relevant from the angle of production of educational programmes.

In the chapter "How to use Educational Radio for Qualitative Improvement of classroom teaching" the endeavours made so far by the All India Radio and the education department for improving the quality of education have been discussed with reference to what should be done in this regard. The role of teachers in this context cannot be overemphasized and teacher training colleges have to renovate their programmes for preparing them to do justice to their duties. Some suggestions have also been made for effective utilisation of radio and television programmes. In this connection the chapters like "Radio and Television for Teacher Training Institutions", "Radio as a Component of Eudcational Technology" and "Radiovision as an Innovation in the Educational Broadcasting" are meaningful and significant.

Evaluation and research are essential for knowing the actual needs and conditions of the target population and for bringing about improvement in the educational radio

and television programmes. Different kinds of evaluation like formative as well as summative and appropriate steps in such evaluation have been discussed in the chapter "Education of Educational Television Programmes." In another chapter "Evaluation of Educational Radio" an attempt has been made to spell out the objectives of media evaluation, variety of evaluation methods, BBC models of evaluation, a gist of a few studies conducted in and outside India and prospects of programme evaluation. The major findings of a few studies conducted on ETV Programme have been mentioned in the chapter "Highlights of a Few Studies in ETV Programme under SITE."

Lastly, provision programmes with the help of satellite has been found to be more economical and fesible for the coverage of a vast area at a time. Therefore at present communication satellites are being launched by different countries and some of them are being utilised for educational television programmes. In this connection, the chapter "SITE: The Grand Experiment in Education" is relevant which describes the general background, educational objectives of SITE, nature and form of educational inputs means of utilisation, teachers training and aids. Similarly, a series of Indian national satellite (INSAT) have been proposed to be launched mainly for the communication purpose: The chapter on "Educational Tele vision Programmes under INSAT" may be referred to in that context.

This book is a modest but pioneering effort in the field and there might be a few lapses here and there. But it would be highly gratifying if my learned readers can extend their valuable suggestions for improving the book in the next edition.

My thanks are due to Sterling Publishers Private Limited, New Delhi for publishing this book.

BHUBANESWAR
1. 1. 1984

J. MOHANTY

1

EDUCATIONAL BROADCASTING: THE NATIONAL PERSPECTIVES AND PRIORITIES

Importance of educational broadcasting cannot be over-emphasized for accelerating the pace of national development in general and for bringing about qualitative as well as quantitative improvement of education in particular. This is felt more significant in developing countries like India where socio-economic condition is yet to reach a take-off stage and universalization of elementary education is still to be realized as per the constitutional directive. Therefore, there has been an imperative need for furthering national development in all facets of life and for providing increased access to education both through formal and non-formal system and reducing the massive wastage and stagnation at all stages of education. Educational broadcasting is required to be a potential instrument of educational advancement and an integral component of educational inputs in traditional as well as distance education or other alternative learning systems for different categories of learners.

Attempts of the APEID at the Continental Level

The Asian Programme of Educational Innovation for Development Technical Working Group in its Draft Final Report in the context of formulating guidelines for the development of educational broadcasting services has laid down the following for consideration:[1]

(a) guidelines should have application to the universalization of education and the special needs of rural communities,

(b) there is a great variety of administrative patterns and in the stages of development in educational broadcasting among member countries,

(c) advice should be practical for implementation and should have a proper regard for limits of financial and other resources,

(d) radio is a cheaper form of broadcasting than television, both in the production and transmission of programmes and in the facilities required for reception. It has the advantage of greater penetration of the general population,

(e) notwithstanding the previous statement, television is a powerful educational tool and must be given full consideration by governments and ministry policy makers when determining priorities for the allocation of resources.

Consideration at the National Level

In view of the above considerations, the APEID Group was rightly conscious of its limitations and has aptly observed that the guidelines that were laid down by it are either general principles or specific statements that are not applicable to any one country or educational system. Therefore, it was felt necessary to discuss and spell out these guidelines in further details of specificity in National Seminars or Workshops of various Asian countries. In India, such a National Workshop was held at New Delhi from December 1 to 6, 1980, under the joint collaboration of the Ministry of Education and Culture as well as the UNESCO's Asian Programme of Educational Innovation for Development (APEID). This Workshop in the fitness of things specifically viewed educational broadcasting including both radio and TV programmes.[2]

(a) as a means of motivation by informing and encouraging people to participate in national development.

(b) as a major component of the non-formal education system by providing an alternative approach to the education of out of school children, youth and adult.

(c) as a direct instructional medium dispensing with the need for an intermediary.

(d) as an enrichment of the formal system of education where it can fill instruction gaps, up-to-date knowledge and bring in new learning experiences.

(e) as a training component for teachers (instructors) and supervisors.

(f) as a means of imparting vocational (agricultural and industrial) and professional (medical and engineering) skills.

Nature of Educational Broadcasting

The National Workshop thus wished that educational broadcasting would be multi-purpose and sought to make multi-pronged efforts for educational advancement. It would not only move away from narrow syllabus based approaches, but also would try to reach the learners directly. It would aim at reduction of load and drudgery in the classroom and making teaching-learning process interesting and effective. Both radio and television programmes would serve all categories of learners and provide all kinds of learning experiences —knowledge, understanding, appreciation, attitude and skills. The new curriculum with emphasis on SUPW, citizenship training and national integration could be better realized with the help of educational broadcasting.

National Priorities

In planning and production of programmes both the media—radio and television would emphasize the following

national priorities at least during the next ten years.[3]

(a) universalization of elementary education both formal and non-formal.

(b) non-formal education for adults, linking education to economic and social tasks.

(c) development of vocational and professional skills.

(d) training for citizenship.

(e) popularising science with a view to developing a scientific outlook.

(f) promoting national integration.

(g) providing information about themes of national importance—population education, energy conservation, preservation of wild life, enviromental sanitation, nutrition and health.

Planning and Management

With a view to realizing the above national objectives and priorities, it has been decided that educational broadcasting should form an integral part of the total educational system. It means that the responsibility for policy and management of educational broadcasting should be with the educational authority. It has been suggested that Advisory Bodies and Educational Technology Institutes should be set up at the national and State levels for extending advice from time to time and taking up the management. These advisory and executive bodies should take up responsibility for all kinds of educational media. This responsibility must include formulation of policy, programme planning, production, utilisation, evaluation and feedback, training of personnel, providing support materials and publicity. This must also comprise administration and accounting of the organisation. Although these institutions would be part of the educational infrastructure, they should have operational freedom.

Educational broadcasting by its very nature must address itself to mass audience. It must serve the national interests and goals. But it is also necessary that it should take cognizance of local needs, language differences, cultural variety and other similar factors. Therefore, besides national framework within which the priorities, broad areas, themes, objectives, utilisation and evaluation procedures of educational broadcasting should be spelt out, similar action should also be taken up at regional, State and even local levels. Planning, production and evaluation should be a collaborative venture involving curriculum developers, subject experts, teachers, scriptwriters, social scientists and producers. Even audience would be involved in planning, production and evaluation for ensuring credo and reality in programmes.

Utilisation and Feedback

In order to ensure optimum and effective utilisation of educational broadcasts, the National Workshop has suggested that all schools and learning centres should be adequately equipped with listening and viewing facilities. Although Government should take up the main responsibility for this, public funding participation of the community and national as well as international voluntary agencies may also be explored. Adequate steps should be taken for maintenance and operation of the receivers. Even necessary incentives may be made available to teachers for bringing their own radio sets for enabling pupils to hear broadcasts. Educational broadcasting should also form an integral part of teacher-education programme. Besides, in-service training courses should be organised for orienting the teachers and supervisors with the effective use and techniques of media; various kinds of support materials should also be provided to teachers and students by the educational authorities. Research and evaluation should form a significant part of the total process of educational broadcasting. Both short-term as well as long-term, formative and summative research studies should be conducted for better utilisation, evaluation and feedback.

In view of the INSAT

All steps were taken both at the national and State levels for making the ETV Programmes a great success with the help of INSAT. The experts in the Working Groups for Hardware and Manpower as well as Software submitted their detailed suggestions for implementing the project more effectively and efficiently. These documents were considered along with other relevant papers in the National Workshop at New Delhi and after minute discussion and deliberation resolutions were taken for facing the unique challenge successfully.[4] It was felt by all concerned that educational broadcasting has to be made meaningful and efficacious if education is to be "an instrument of human progress and a condition for human survival."[5]

With the availability of INSAT-1A, new types of ETV Programmes were telecast for primary schools from August 15, 1982. But unfortunately the said INSAT had some mechanical disorders and failed to function properly. Even then ETV Programmes have continued to be telecast through the terrestrial transmission stations in Andhra Pradesh and Orissa. "It is hoped that the INSAT-IB which has successfully been launched on the 30th August, 1983, will help promoting expansion and utilisation of ETV Programmes in the country."

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2

DEVELOPMENT OF EDUCATIONAL BROADCASTING IN INDIA: (RADIO)

Introduction

Gone are the days when education was the luxury of a few. Now education is the necessity of many, rather of all. Previously, its main objective was to impart some knowledge and skills required for the white-collared jobs or other few vocations. But now it is necessary for all kinds of jobs that are available in any part of the world. Education is regarded as a potential instrument of social change that is thought desirable at a particular point in time. It is intended to bring about social upliftment, political awareness and promoting economic growth of the masses in general, not to delimit any good to a specific group in particular. Governments of different countries have, therefore, taken up the responsibility of universalising school education and widening the access to tertiary and technical education. It has been ensured not only in the Constitutions of most of the countries, but also in the International Charters of UNO and UNESCO

Education is not limited to the classroom teaching only. It has been broad-based and multi-dimensional. It is life-long, universal, free and open. Education is learning and learning is life. Learning, living and working should go together. Education is not only life-long but also life-wide.

Hence, there is no end to learning and no frontiers of learning. School is not the only institution of learning. It has ceased to monopolise the sources of learning. Schooling is not the only education or education is not the only schooling. The traditional curricula, methods, organization and examination are found irrelevant to the modern age. Therefore, flexibility and multiplicity of media and materials are to be encouraged. Since the children of today are the citizens of tomorrow, they have to be provided with all kinds of facilities and techniques for effective as well as efficient learning.

Educational Radio Programmes in India

In this context, Radio has been playing an important role for promoting relevant and interesting education. It brings the outside world into classrooms and makes the educational programmes very attractive and useful. It not only informs, but also inspires the audience. It inculcates values, develops virtues and encourages imagination. Therefore, radio has been used as a potential medium for helping in realization of educational objectives most efficiently. Being an inexpensive medium, it has reached villages and is now available in every nook and corner of society. Radio is, at present, not only one of the popular mass-media, but also a potential instructional tool in the formal, informal and non-formal education.

Although All India Radio (now Akashvani) introduced programme for children from the Bombay station as early as in 1929 and from Madras station in 1930, the pioneering school broadcast programme started in 1932. The other stations followed suit and have been broadcasting educational programmes quite successfully.

Educational broadcasts are now little over 44 years old and are being beamed in 16 languages including English, from 38 stations catering to 23 States and Union Territories. With a view to reaching interior and sparsely populated hilly as well forest areas these school programmes are relayed by

another 25 stations. Although there is no central planning and production of educational programmes, there has been an exception to this rule in case of about 150 programmes in English which are planned and produced in joint collaboration of All India Radio and the Central Institute of English and Foreign Languages at Hyderabad. This series of programmes are planned, of course, in consultation with the Education Departments of the State Governments.

The educational *broadcasts for secondary* schools are mostly syllabus-based and the subjects covered in these programmes are English, Modern Indian Languages, Science, Social Studies, Sanskrit etc. Secondary school broadcasts aim at helping students and teachers by giving up-to-date content-knowledge, providing new approaches and methods of teaching and filling curricular gaps. A few non-syllabus programmes are however, broadcast in order to break away from the stereotyped formal education, for doing away with monotony in the curricular topics and also to stimulate awareness and curiosity about the modern world dealing with themes ranging from popular science to current affairs. About 70,000 schools get the benefit of this service throughout the country.

Besides secondary school broadcasts *primary school programmes* have recently assumed greater importance. This has been done in order to reduce wastage and stagnation at the primary school stage by making the school situation attractive and interesting. Dullness of the classroom, irrelevance of curriculum, rigidity of school timing are the reasons for the high percentage of dropouts. Hence, along with the various attempts of the governments at the state and national levels, the AIR has shifted the emphasis of educational broadcasting towards the primary stage. Besides introducing Primary school programmes with the existing school broadcasts, priority is being given to the Primary School Service in new stations which have not yet started school service. The AIR has given preference to tribal and interior areas for expansion of instructional broadcasts. The personnel

in charge of these services are being recruited from among those who are familiar with the tribal culture and languages. The programmes are being related to their education, health, hygiene, nutrition etc., with a thrust on bringing the audience into the mainstream of national life.

There are also *broadcasts for tertiary or University* students which are of two kinds. One is a general and enrichment service which mainly constitutes the youth programme. These broadcasts are not syllabus-oriented and topics of general interest are discussed therein. The second category is the radio support to Correspondence or Distance Education which is now done from four universities like Delhi, Punjabi, Madurai and Kashmir. These broadcasts are mostly related to the course of studies and are planned in consultation with the Correspondence Education authorities of the respective universities. About 50,000 university students are the beneficiaries of this service.

Since it is not possible to cover all the students under formal educational system, efforts are being made to provide facilities to the drop-outs and those who have not entered into the schools so far, through *non-formal educational* system. The AIR has not lagged behind to support this system through their educational programmes. As such, non-formal education broadcasts were started from 5 stations since 1976 on an experimental basis. These programmes were broadcast to non-formal education centres where rural workers assemble to study in the evening between 7 to 8 p.m. or 9 to 10 p.m.

The *National Adult Education Project* was implemented on a massive scale by the Government of India in order to remove illiteracy from the country since October 2, 1978. The AIR also has committed itself to supporting the project with suitable programmes for publicity, motivation and training of instructors/helpers. This service is now being provided by 14 stations of the country. Since learning directly from the teacher is minimal and there is more emphasis on

learning through various mass media, educational broadcasts are expected to play an important role in non-formal system.

Farm schools of the air is another example of non-formal education through the AIR. It was inaugurated in the year 1973 and thousands of farmers have registered for different courses under this service. A series of lessons on selected agricultural topics are planned and produced according to local needs and are now broadcast from 14 stations.

The AIR is now giving more emphasis on the planning and production of *science programmes* in both the formal and non-formal spheres of educational broadcasts. Special Science Cells have been set up in most of the major stations of the country to improve the quantity and quality of science programmes.

There are also special *programmes for teachers and teacher-educators* in most of the stations. These are intended to familiarise methods of teaching, curricular changes, advanced content and so on. This service has been more necessitated in recent years on account of large changes in school curriculm and methodology particularly in subjects like science, mathematics, social studies and English. Teachers have to be oriented to these changes and their knowledge in content and methodology need be updated. Hence teachers' programmes have assumed more importance today than before.

In five states like Kerala, Gujarat, Maharashtra, Assam and Tamil Nadu there are well-organised *Radio-cum-Correspondence Training* like language and sciences. The State Government of Kerala in collaboration with the AIR, Trivandrum, organised radio-correspondence-cum-contact courses for training teachers in 1975. As many as 35,000 teachers have been trained under this programme. The objective of the Programme is to train 120,000 teachers in about 5 years. A similar training course for improving the standard of English at the upper Primary stage is going on in Gujarat.

Maharashtra, Assam and Tamil Nadu also have a similar training programme of Radio-Cum-Correspondence for different subjects.

A *pilot project for teaching of mother-tongue* as a first language through radio was started in Jaipur, Rajasthan during July 1979. The project was organised by the Centre for Educational Technology, NCERT and about 500 schools were participating in the Project. This Project aims at teaching Hindi to children in the first years of their schooling. Evaluation of this innovation showed substantial improvement in the achievement of children.

During the SITE experiment in 1975-76 in-service training in science was organised with the help of a *multi-media package* consisting of radio programmes as an important component. This Package was developed by the Centre for Educational Technology, NCERT and the training programme was implemented by the CET and ET Cells of 6 SITE states. About 43,000 teachers of Primary schools and M.E. schools benefited from the programme and the experience was quite interesting. Besides this, a few other innovations are being tried out both in rural and urban schools with the help of educational broadcasts as an important input.

Administrative and Advisory Infrastructure

Every Radio Station with school broadcasting service has a unit with only three persons—a Producer, a Scriptwriter and a Production Assistant—with a general Assistant to help. There is a Consultative Panel for School Broadcasts comprising usually of 6 eminent heads of schools and experts who monitor the broadcasts and advise the station. As spokesmen of the programme-users they point out the deficiencies as well as useful features and suggest measures for better planning and utilisation of the educational broadcasts.

Planning of programmes is done in consultation with the Education Department. There are advisory bodies for various subjects who help the station in choice of subjects

and in drawing up the broadcast schedule. This help is provided through the State Institute of Education, State Council of Educational Research and Training, State Institute of Languages, State Institute of Science Education, depending on institutions available in a particular state at the time.

With the establishment of Educational Technology Cells in many States since the year 1974, the collaborative efforts between the AIR and the Education Department have been promoted satisfactorily. The E.T. Cells have been taking an active interest in educational broadcasting—provision of radio sets, planning programmes, producing and distributing teachers' notes, training teachers in the use of media and scriptwriting. The state Governments have been actively participating in various training programmes, particularly in the Radio-Cum-Correspondence courses by funding and organising workshops and seminars producing support materials.

Most of the personnel in charge of Akashvani educational broadcasts are recruited from among experienced trained teachers and educationists who have a favourable aptitude and positive attitude towards the medium. They are also trained in the Akashvani Staff Training Institute at the Centre and subsequently updating is provided there or at the two Regional Centres of the Institute or at specially organised workshops. The training is both in-service or on the job as well as formal. Exchange of ideas and mutual sharing of experiences are facilitated at the periodical seminars, workshops and conferences held at the regional and national levels. With a view to sorting out the problems and devising ways and means for overcoming them, the Director of Public Instruction, Directors of NCERT and Educational Technology Officers are invited to participate in these seminars and workshops. Most of the producers of Educational Broadcasts are also deputed for training abroad and get exposure from BBC, NKH, ABC or AIBD (Kuala Lumpur) which improve their expertise and outlook in the field.

Since quality of educational programmes much depends on the quality of scripts, nowadays a number of script-writers are being organised at the national as well as state levels. The Centre for Educational Technology, NCERT, has been organising training courses for radio scriptwriters from various parts of the country. The E.T. Cells also are recently organising scriptwriters' workshops in collaboration with Akashvani and CET experts. Akashvani also occasionally organises training of teachers in using radio and writing scripts in special workshops. This is mostly done on requests from the state educational authorities. Although Akashvani staff Training Institutes are mainly intended for Akashvani personnel, they and individual stations organise such workshops for outsiders on special grounds.

Evaluation and Feedback

With a view to bringing about improvement in the educational broadcasts, it is imperative to evaluate them and get feedback from the audience. This is done through so many techniques. The immediate antenna for sensing the reactions of the listeners is the volume of letters received by the station. A format for setting immediate feedback is printed on the Data-Schedule of programmes or any teachers' note supplied to teachers who are requested to furnish data in the same. The filled in proforma are sent back to the stations. Some stations send printed proforma in bulk to the radio user schools and get them back every week for processing and reporting. These reports provide quite good and immediate feedback from the field

At times, producers also pay visits to school, and listen the programmes with the students there. The reactions collected from students are of immense use to the producers for their guidance.

In most of the stations there are audience research Units who undertake surveys and studies for assessment of individual programmes in various subjects like drama, farm, educational broadcasts and so on. Since these units have a

small staffing pattern, they are not able to take up many research studies. Usually they conduct surveys of programmes in a series.

Recently, a number of external agencies like State Institute of Education, NCERT, Educational Technology Cells, Centre for Educational Technology and some other organisations have started undertaking studies in this area. Even some scholars for their Ph.D., M.A. and M.Ed. degrees are taking up research studies in Educational radio programmes.

The findings of studies are largely revealing as well as useful. They are found quite necessary for planning, producing and utilising the educational broadcasting. Akashvani as well as the Education Departments should take adequate note of them.

Problems and Prospects

Since radio is one of the popular mass media, there are pressing demands for drama, music, and special programmes for women, workers and so on. At the same time it is felt that more time chunks should be made available for adult education, workers' education, open universities or distance education and teacher education. But most of the stations are single-channel ones and it is not possible to meet these demands along with emerging educational demands. In order to partly tackle this problem, the Akashvani authorities are trying to fit these developmental ideas into the already existing special as well as general audience programmes.

Provision of radio listening sets in the schools and centres for nonformal education is not at all adequate. Previously the Education Departments were not reasonably concerned with this problem. During the seventies, owing to the establishment of Educational Technology units at the Centre and States, the Education Departments started taking keen interest in the educational programmes. By 1980, after 42 years of educational broadcasting service, the number of schools

having radio sets was about 70,000. Again about half of 70,000 schools having radio sets belong to Tamil Nadu state alone. The success of providing radio sets to schools in Tamil Nadu was due to the special drive of School Improvement which made it possible on the part of guardians to donate radio sets to schools. Besides it is suggested that philanthropic organisations like Rotary and Lions Club as well as industrial and commercial firms should be moved to provide schools with radio sets through voluntary donations. International organisations like UNICEF have also been found to have donated this medium to the schools.

Another problem likely to be faced is that educational broadcasting would lose its initial glamour and might get into a rut. But in the changing society it has to be accepted as a universal reality and attempts should rather be made to recreate new attraction and novelty in the medium through various innovations and experiments. For example, radio-vision or audiovision with the help of slides, filmstrips graphics etc. can make the radio programme interesting and attractive. Nevertheless, from cost-effectiveness consideration and due to relative convenience in production and utilisation radio broadcasts can be appreciated and preferred to TV programmes.

Radio programming and utilisation has not yet been integrated with the teacher education curricula at various levels. Educational Technology has not yet been given its rightful place in teacher education programmes. Unless it is done, neither the teaching-learning process can be made interesting and relevant nor teacher's competence can be improved upto expectation. Education should be provided from multi-sources and the teacher can do justice to his job not in seclusion, but in collaboration with other agencies, media and materials. During his preservice training also, provision should be made for his orientation and practice in utilisation and production of radio programmes.

The educational planners and administrators are yet to

realize the importance of educational technology in general and educational broadcasting in particular. Although resources are available, they are not properly utilised for provision of radio sets and other media in the schools. Even whatever media are available, they are not suitably used in the teaching learning process. An initial orientation towards the media is, therefore, felt imperative for heads of institutions and educational supervisors.

Adequate cooperation and coordination among the producers, user teachers, educationists, evaluators and planners are not yet forthcoming in our country. Whatever attempts have been made in this connection, are quite enlightening, but they are very occcasional and fragmentary. Such collaborative efforts are therefore, necessary at all aspects of educational broadcasting—from planning and designing to production and evaluation, in a very systematic and interdisciplinary manner. Systems approach and cost effectiveness should be taken into account for planning optimum or mastery learning and achieving excellence through educational broadcasting.

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3

DEVELOPMENT OF EDUCATIONAL BROADCASTING IN INDIA : (TELEVISION)

The American author James S. Kinder has aptly remarked, "Television has literally captured the country. Its expansion has been much more dramatic than that of radio or the automobile. It has become an important part of our way of life, so much so that it is difficult to say whether it is a luxury or a necessity."[1] This is the state of affairs not only of America, but also in most of the developed as well as developing countries. Its glamour has caught the attention of all irrespective of economic condition and political or religious affiliation of the country.

John Baird was able to transmit a visual across a few meters for the first time in 1924. Marconi also succeeded in starting experimental television. The BBC initiated its television service in 1936 with only 300 TV sets. But in 1939 it closed down this service and could not muster its strength till 1946 for starting the same again. It, however, flourished in the developed countries particularly in the Western world during the nineteen sixties.[2]

Initial Attempts in India

In 1956, the General Conference of UNESCO was held in New Delhi and it was decided therein that a pilot project should be implemented in India to study the use of television as a medium of education and community development. In 1959 an agreement was signed between AIR and UNESCO

for starting the project on an experimental basis. This was inaugurated in Delhi by the erstwhile President of India Dr Rajendra Prasad on the 15th September, 1959. Thus the experimental television service was started with the objectives of "experimentation, training and evaluation" as a part of the UNESCO project. It was experimentation with the new medium, training of the personnel for running it and evaluation of the new medium as a vehicle of communication and education.[3]

Television sets were installed at first only at 21 community centres of adult education and social welfare services. A teleclub was formed at each centre and was expected to promote organised viewing, conduct post-telecast discussions and to convey the viewers' reactions and comments as feedback to the All India Radio. A convener was appointed at each club for this purpose and the programmes were telecast for one hour every Tuesday and Friday. TV programmes were educative and informative and of various formats like talks, plays, ballets, interviews, discussions, music and documentary films. Besides, important occasions like Independence Day, Republic Day, State visits of foreign dignitaries, Holi and Diwali festivals also had their coverage.

This TV service was operated from the Akashvani Bhawan in New Delhi and the area of coverage was within 12 to 15 miles. About 150 to 200 persons were viewing the programmes at each of the 21 centres. During 1960-61 a series of social education programmes were telecast in collaboration with UNESCO. As many as twenty such programmes were telecast from December, 1960 to May, 1961. The topics covered were, for example, traffic and road sense, community health, good manners, rights and duties of citizens. After the completion of these programmes another series of twenty programmes were telecast. The nature as well as impact of these programmes was evaluated by the National Fundamental Education Centre and Indian Adult Education Association, New Delhi. The findings of the

experiment were quite encouraging and significantly beneficial.

Television entered into classrooms

The first move towards educational television was made by AIR in January-March, 1960 and an experimental programme was telecast for school children every Tuesday from 3 to 4 p.m. in lieu of the evening programmes. Although a number of difficulties were experienced in assembling batches of students at nearby community centres with TV sets, the experiment, on the whole, was inspiring.

One Ford Foundation Project in fact laid the foundation stone of educational television service. A four-year Agreement was made with the Ford Foundation for launching a regular TV programme for schools in Delhi. According to this Agreement 600 TV sets would be installed in Secondary schools by 1965. This service was inaugurated on the 23rd October, 1961. Eight ETV programmes of 20 minutes each were telecast every week for the students of Secondary school students. These programmes were also repeated in the afternoon in order to make them available to students of the second shift. The subjects covered by these programmes were Physics, Chemistry, Hindi, English, Geography and current affairs. Telecasting was made twice a day from 9.25 a.m. to 9.45 a.m. and 11 a.m. to 11.20 a.m.

The Agreement also provided for the supply of technical equipment, deputing AIR personnel abroad for training and making experts on educational TV from America available to the AIR. Initially, 250 TV sets were installed in Secondary schools having AC electricity supply and it was proposed to cover all the High schools in Delhi. As the number of schools equipped with TV sets increased, benefits of ETV programmes were extended to 36,000 students of science and 96,000 students of English.

After four years of execution, the Project was evaluated by Dr Paul Neurath, a New York City University Professor

of sociology. The overall impact of the ETV programmes was quite satisfactory. G.C. Awasthy on the basis of his personal contacts with schools, reports from the viewing schools, discussions with teachers and AIR personnel has observed that the results of the Project were very encouraging. AIR has also claimed that as a result of TV programmes academic performance of students viewing ETV programmes had improved, interest in science had increased and standards of teaching had improved.[4]

Regular TV service was inaugurated in Delhi on the 15th August, 1965 and a landmark was made in early 1966 with launching of the Krishi Darshan Programme for farmers. The AIR was organising this Project in collaboration with the Institute of Agricultural Research, the Delhi Administration, and the Atomic Energy Commission. The experiences of this Project were quite enlightening and interesting.

SITE Project

The famous Satellite Instructional Television Experiment (SITE) was implemented during the year 1975-76. This project was, however, originated during the year 1965—the year of International Cooperation and initiative was taken by the UNESCO. In a meeting of the UNESCO on Space communication, an Advisory Panel was set up and an International Committee of media experts submitted a report after carefully examining the issue. It was decided to take up a pilot project in India on TV programmes through satellite. It was felt that the Project would help India in solving her problems of food scarcity, mass illiteracy and ignorance about developmental strategies.

The SITE was inaugurated by Smt. Indira Gandhi, the Prime Minister of India, at Ahmedabad on the 1st August, 1975. The TV programmes could be telecast with the help of a satellite called ATS-F loaned by the National Aeronautics and Space Administration USA. The TV programmes were related to Education, Agriculture, Health, Family

Planning, National Integration and so on. Telecasting was made for four hours a day out of which one and half hour in the morning were meant for Primary school children and two and half hours in the evening for adults. The total time was equally divided into three segments for six states of India in view of the capacity of satellite for telecasting on video with two audio channels.

The Project was intended to cater to the developmental needs of the rural community and with this in view, about 2,400 direct reception television sets were deployed in different cultural, linguistic and agricultural regions located in 6 states of Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Orissa and Rajasthan. In Orissa alone 354 TV sets were installed in the 3 districts of Dhenkanal, Sambalpur and Phulbani. The ETV programmes were produced by the TV Base Production Centre, Doordarshan and Indian Space Research Organisation (ISRO). Besides students' programmes, a number of ETV programmes were also telecast for teachers who participated in the in-service training courses in science. A few organisations at the state and national levels like ISRO, NCERT, Ministry of Education, E.T. Cell and universities were engaged in conducting research studies on impact of TV programmes on the rural audience. The findings of these studies were, on the whole quite inspiring and useful.

Terrestrial TV Programmes

After the SITE, the Goverment of India decided to provide TV viewing facillty in 40 per cent of the SITE-served villages by setting terrestrial transmitters in the six SITE sates. In view of the infrastructure and studio facilities already existing in these states, it was easier for the Doordarshan authorities to take up the SITE continuity programmes in these areas by setting up low-power terrestrial TV transmitters. Besides, other five SITE states, in Orissa Sambalpur area was selected for the purpose. The programme envisaged that 260 TV sets were to be installed in the selected villages within 40 kilometres radius from the Sambalpur town.

The project was popularly known as community viewing scheme and would be a permanent system with expansion of area and extension of facilities to more schools in course of time.

Today Delhi Doordarshan Kendra alone telecasts 16 programmes per week in various curricular and co-curricular subjects. More than 3 lakhs of students are viewing these programmes over the 900 TV sets installed in schools. In addition to this, Bombay, Calcutta, Madras, Jaipur, Muzzafarpur, Raipur and Srinagar Kendra also telecast programmes for schools. The frequency in Jaipur, Raipur and Muzzafarpur is six half-an hour programmes per week.

Preparation for INSAT Utilization

The Sixth Five Year Plan commits us to a linear expansion of education reaching out to nearly 18 millions of students in the age-group 6 to 14 on the one hand and to reforming as well as restructuring the teaching-learning process to make it relevant to our national development on the other. The Plan has, however, admitted that the linear expansion cannot be achieved by the existing system because even if the resources were available, which are not, schools cannot be built fast enough, teachers cannot be prepared within the five-year time frame and school equipment and books produced and procured to meet the additional requirements of 18 million pupils. The same constraints apply to a nationwide reform of the school system, as opposed to pilot and demonstration efforts, particularly in the fast-moving science and learning areas. Shri S. Sathyam, the Joint Secretary to the Government of India in the Ministry of Education has rightly observed that in order to meet the Sixth Plan's double imperative of linear expansion and educational restructuring and reform, it should call on the resources of educational technology using the two INSATs that would be available during the period.[5]

With a view to utilising the INSAT capability for educational development, the Ministry of Education initiated action

for preparing plans of operation as early as in July 1979. In view of the experience and involvement of the Space Application Centre, Ahmedabad, in different aspects of TV, it was decided to elicit their cooperation in preparing a basic document for consideration and discussion. It was expected that the document would provide, *inter alia*, an outline of the institutional, human, technical and financial resources available and those that could be developed in the country and were necessary for a national system of utilisation of television for education. In response to the Ministry's request, the SAC prepared a background paper entitled "INSAT". The paper outlined the INSAT capability, the ground segment requirements for TV, the possible hardware for satellite utilisation and an approach for developmental communication.

A meeting was convened by the Ministry of Education on the 30th January, 1980, to discuss the background paper and all connected issues involved in the satellite utilisation for radio and television programmes. The Education Secretary presided over and representatives from SAC, NCERT, AIR., Doordarshan, Planning Commission, UGC and Ministry of Education attended the meeting. It was decided that urgent steps should be taken for planning software in connection with INSAT utilisation by all the user Ministries in general and by Education Ministry in particular.

The Ministry of Information and Broadcasting set up a Working Group under the Chairmanship of the Secretary, Information and Broadcasting on February 2, 1980, in order to draw up a software plan for INSAT utilisation. The Group consisted of members from various affiliated organisations and different User Ministries. The Working Group finalised its report in September, 1980 and mainly recommended that the concerned Ministry should develop programme production capability and take upon themselves specific responsibility for producing programmes. The Ministry of Education after due consideration took a decision that edcational authorities would be entrusted with programme

production and indicated to the Working Group that the major educational objectives a satellite television would be to promote alternative approaches to education for children, youth and adults. The thrust of the specific programmes would be to emphasize direct teaching, moving away from curriculum-oriented approach and aim at reduction of load in the classroom and improvement of the quality of programmes through training of manpower.[6]

Another Study Group set up by the Ministry of Education under the Chairmanship of Shri S. Sathyam, Secretary, Education in May also developed a policy for the use of TV, identified approaches, priorities, target audiences and themes for programmes, considered in detail the implication arising out of the decision that the educational authority shall be responsible for the production of educational television programmes in terms of an infrastructure and manpower requirements, identified key areas for training and developed training courses in detail and suggested lines for further action.

In April, 1980, the Government of India was invited by the UNESCO Regional Office for Education in Asia and Oceania, Bangkok to participate in their Asian Programme of Educational Innovation for Development (APEID) in the field of educational technology. As the participating countries were required to organise National Workshops, the Ministry of Education, Government of India, in collaboration with UNESCO convened a National Workshop on Educational Broadcasting from December 1 to 6, 1980, at New Delhi. The basic reference document for the National Workshop was the Draft Guidelines on Educational Broadcasting which was developed at a Technical Working Group Meeting on Educational Broadcasting organised by the UNESCO during 1979 in Malaysia. The NCERT, AIR and Doordarshan authorities extended necessary cooperation in organising the National Workshop.

The National Workshop was attended by 41 participants

representing various media and educational interests from all over the country and consisting of media practitioners, media experts, planners, administrators, teachers, trainers, educators, researchers and social scientists. The Workshop assumed special significance on account of the nation's renewed emphasis on Educational Broadcasting on the eve of putting INSAT into orbit. The main highlights of the Workshop were as follows:

1. Recognition of Educational Broadcasting's new priority role to move away from syllabus-oriented approaches into non-formal systems and lesser dependence on intermediaries.

2. Stressing team mode of production, making planning and production of educational broadcasts a collaborative effort of the producers, educators and social scientists.

3. Calling for an integration of educational broadcasting within the total educational system and for the purpose recommending autonomy to the Centre for Educational Technology at the national level and creating autonomous State Institutes of Educational Technology at the state levels which will be necessary professional and technical structures for educational and technical structures for Educational Broadcasting.

4. Laying more emphasis on research and evaluation as an essential component of Educational Broadcasting at all stages of planning, production and utilisation.

5. Evolving a national framework, spelling out the priorities, broad areas, themes and objectives of the programmes.

6. Entrusting the responsibility of planning production and use of educational broadcasting to the educational authority.

7. Urging immediate action on all fronts to prepare for the utilisation of the television facilities under INSAT.

The Report of the National Workshop has rightly mentioned that the participants representing a cross-section of varied professional background and interests were able "to take a collective look at the problem of educational broadcasting, share their individual and group experiences and to pool their expertise in the creation of new approaches towards making broadcasting a meaningful educational tool the free spirit of which can cut across the barriers of syllabii, age-groups, and traditional restrictive educational philosophies. It is to be hoped that the liberal thinking that permeated the Workshop will be instrumental in shaping Educational Broadcasting and pave the way for exciting educational horizon behind and beyond INSAT."[7]

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4

RADIO AND TELEVISION AS MEDIA OF MASS COMMUNICATION

Man as a social being cannot help communicating with others. He has to exchange his ideas and experience, feelings and emotions with his near and dear ones. He communicates with others individually as well as in groups through one or more senses – sight, sound, touch, taste or smell. The modern society has been too complex to function only through direct communication between one individual and another. Most of our important messages must reach many people at a time in order to be effective and meaningful. A house-wife expresses her grievance about the price-rise in her home and neighbourhood, but this reaches a mass audience when she gets a letter to the editor published in a newspaper having wider circulation.

A message can be communicated to a mass audience by many media. The ancient media are the printed materials with words and pictures which communicate the message through the sense of sight only. Radio is one of the mass media which communicates message through sense of sound only. But television and films are mass media which are both visual and auditory in nature. There are no water-tight compartments among these three kinds of media. All the media are inter-related both in functions and in personnel. A newspaper can bring out an event flashed in a radio programme and a news published in a daily may be highlighted by radio. Television can utilise a message transmitted both by the newspaper as well as radio with the same

objective of bringing about adequate awareness. Similarly, a newspaper reporter having a good voice can become a radio commentator and a radio artist having suitable photogenic appearance can be a TV artist or a film star.

Mass Communication Media

In this age of science and technology, importance of mass media cannot be overestimated. It is felt difficult to spend a single day without the use of mass media. Different aspects of our life—social, political, economic and even personal, are being influenced by mass media.

Public opinion which is the driving force for turning the wheels of any government is moulded by various communication media. In a democracy no government can afford to function, arbitrarily. The people at the helm of affairs must be restrained by public opinion. If they fail to work upto the hopes and aspirations of the common mass, counter forces begin to operate and threaten them with defeat in the next election. It is therefore rightly said that a democracy gets the kind of government that the majority of its people desire and deserve.

Mass media work as an instrument for forming public opinion and expanding our national economy through advertising and publicity. They create as well as reflect people's tastes, needs and requirements which lead to industrial and commercial enterprises. All this promotes economic environment of the country.

Influence of mass media on social relations is extremely significant. No aspect of our behaviour, relationships and habits escapes the impact of the mass media. Our social conditions, neighbour relations, racial issues, student's tensions, marriage ceremonies, eve-teasing, cheap music, fashions in dress, food and so on, are constantly reported and discussed over mass media. Our curiosity to know and imitate is always apt to be influenced by the mass media, sometimes blindly. For example, a new style of dress worn by a popular

star in a film can start a national fad and a cheap music on trivial matters like frivolity of ornaments or frailty for other sex may be played again and again.

Radio and Television

Radio and Television are the most powerful media at present. Emery and others have rightly said, "Television and radio are the electronic magic carpets that transport millions of persons each day to far away places. They are the twentieth century creations of the technological revolution that has been transforming much of the world for almost two centuries and their impact on our social, political, and cultural life has been profound."[1] Radio and television, although relatively new media, have already made their impression on world civilization very strikingly.

It has been aptly mentioned that shortwave radio has linked the nations for years and now television is bouncing its signal off space satellites and using oceanic cables to transmit live telecasts to and from peoples the world over. Scarcely a country even in Asia and Africa, fails to receive and transmit television programmes. Despite the headstart which the United States got in telecasting in the late 1940s families in this country today own fewer than half the sets in the world. The impending cultural, economic and political impact of a worldwide exchange of programmes, including virtually instantaneous coverage of important events in many countries, will be profound.[2]

Radio and television can present the world in no time. These mass media have made dissemination of news, of information, of comment, of entertainment possible on a scale unprecedented in human history. A distinguished media expert, Narayana Menon has nicely observed, "The spoken word was rehabilitated with its full force—or nearly full force and just as the supremacy of sound was being accepted as the key factor in communication. Television overtakes it, the visual element asserting itself again. All this in one's life time."[3]

Development of Radio

One of the pioneering attempts to transmit music and speech over a transmitter was made in 1915 by an American Company, Arlington, to a United States naval station to the Eiffel Tower in Paris, nearly 4,000 miles away. In England the Marconi Station in Chelmsford started broadcasting two daily programmes each of 30 minutes duration. In 1922, a Marconi Station was up in London to form the nucleus of the BBC. In the same year the British Broadcasting Company was formed and its first service was launched on November 14, 1922, with Mr J.C.W. Reith as General Manager. This became very popular within two years and broadcasting rapidly became part of the life and the environment of the people. Its control and management became the matters of national concern and interest. On January, 1 1927 the British Broadcasting Corporation came into being and its role was to act "as trustee for the national interest." Parliament was to have the right of ultimate control and Governors of the BBC were to have the maximum freedom possible. Mr. Reith, later Sir Reith and subsequently Lord Reith was its first Director General with wide executive powers and worked as the key person with great vision, initiative and imagination

In the meantime, America witnessed a number of experiments in broadcasting. Although a section of people opposed the idea of commercial broadcasting and pleaded for making it a public service, advertising was found to be quite attractive in the medium. The commercial possibilities of broadcasting were profitably explored by industrialists, businessmen, churches and others. As many as five hundred stations sprang up in the USA by 1924 and commercial broadcasting attracted the maximum audience. A large number of broadcasting networks were set up on private enterprise and problems of control as regards wave-lengths, licensing and so on were confronted by the nation. Consequently, the Congress passed the Radio Act in 1927 and the Federal Radio Commission later redesignated as Federal

Communications Commission was established to function as the controlling body having the power to issue licences to new stations, to close down existing areas, to set down the ethics and guidelines for fair broadcasting. On the whole American broadcasting is mostly private and more independent.

Radio came to India late, but not so late. As early as 1924 witnessed radio broadcasting in our country. Soon a Radio Club was formed in Madras and started a broadcasting service. In 1926 Government granted a licence to the Indian Broadcasting Company to set up broadcasting stations in the country. The Company got the monopoly of broadcasting and earning revenues through the licences. The first station was established in Bombay on July 23, 1927 and the second one in Calcutta on August 26, 1927. However, due to the then prevailing political conditions, expenses of the Company were more than the revenues as a result of which the Company was liquidated in 1930. But there was public protests and the Government took over the service which was reorganised into the AIR in 1936.

The AIR, however, had a pathetic and chequered early career. It had to face a lot of administrative problems on account of foreign rule, multiplicity of languages and economic backwardness. As Menon has remarked, "It was only after Independence that broadcasting was organised as a national service. In the last twenty years the growth has been, both in quantity and quality, steady, if not spectacular. The reorientation in outlook, the shift in the emphasis of values, the transformation of an existing set-up into a national service, these take time. And the wheels of Government grind slowly."[4]

In 1947 there were only 14 radio stations out of which 9 were controlled by the AIR, and 5 were managed by the Princely States. But after Independence, 3 stations came under Pakistan and 6 stations were retained by the AIR. So we had only half a dozen stations and about a quarter

of a million radio sets throughout India. As such radio reached only about 10 per cent of the population. In 1976 there were 47 stations and another 24 auxiliary stations making a total of 71 transmitting stations. But there were 146 transmitters and 16 million radio sets besides a large number of unlicensed ones. The News Service of the AIR is well-developed and broadcasts news in all the major Indian languages and several dialects. In addition to this there are External Service, tribal programmes, music programmes and so on catering to the needs of various audiences. In 1948 the Cuttack AIR station came into being followed by Sambalpur and Jeypur.

Television

In 1924 John Eaird succeeded in transmitting for the first time a visual across a few feet. Marconi of Italy also tried his hand and for a decade or so experimental television continued. On November 2, 1936, the BBC initiated the first regular television service. There were only 300 television sets at that time and even in England it was not a viable proposition. Suddenly on September, 1, 1939, the BBC television closed down and did not reopen till June 7, 1947. During sixties, however, TV service spread like a wildfire, and its utility caught attention of the world.

In 1956, the General Conference of UNESCO held in New Delhi proposed that a pilot project should be implemented in India to study the use of TV as a medium of education, rural uplift and community development. At last in 1956 an agreement was signed between AIR and UNESCO for stating the project as an experiment in order to assess "the value of different types of Educational Television Programmes suitable for group viewing in rural and urban communities in such a way that the results of such an assessment may be useful not only for India but also other Asian countries in the use of television for community education."[5]

During 1960-61 a series of social education programmes were telecast for viewing in various parts of Delhi and the

nature as well as degree of the impact of these programmes was evaluated by the National Fundamental Education Centre and Indian Adult Education Association, New Delhi. The results of the experiment were found to be quite encouraging and significantly gainful.

Another project was initiated in the field of school broadcasting in 1961 by the AIR in collaboration with the Ford Foundation. In all 250 schools in Delhi were covered under this project. The TV programmes were directly related to school curriculum and teachers were specially trained for properly utilising them. As the number of schools equipped with TV sets increased, benefits of TV were extended to 36,000 students of science and 96,000 students of English. After four years the impact of the TV programmes was studied by Dr Paul Neurath, a Professor of Sociology at City University of New York. The overall results of the study was also quite satisfactory. On August 15, 1965 regular TV service was started in Delhi when Smt. Indira Gandhi was the Minister for Information and Broadcasting. In early 1966, a landmark was made with launching of the Krishi Darshan Programmes for farmers. Tbe AIR was organising this project in collaboration with the Institute of Agricultural Research, the Delhi Administration and the Atomic Energy Commission. The experiences of this project were enlightening and interesting.

Another epoch-making project was the SITE (Satellite Instructional Television Experiment) implemented during the year 1975-76. But the initiative was taken by the UNESCO nearly a decade back since 1965—the year of International Cooperation. In December, 1965 discussion was made on Space Communication in a meeting of the UNESCO and the experts were asked to advise on this important issue—"the use of Space Communication as a medium for the free flow of information, the spread of education and wider international cultural exchange." An Advisory Panel on Space Communication was set up by UNESCO as decided in the said meeting. An international committee of media experts

in a report submitted earlier to the UNESCO after carefully studying the various problems, mentioned, "India as one example, would seem to offer a good choice for the application of a pilot project. The needs of education and development are largely recognised within the country and the present broadcasting facilities are only beginning to play their part."

It was felt that development of adequate communication facilities by conventional terrestrial means would be comparatively expensive as well as slow. Moreover, India had to tackle a large number of problems like population explosion, food scarcity, mass illiteracy and ignorance. Therefore, the Advisory Panel on Space Communication held in the UNESCO House on March 23, 1967 recommended that a pilot study was to be conducted in India. Lastly, the Wildings Group prepared a favourable feasibility report, communication experts like Wilbur Schram made favourable suggestions and Indian scientists with vision and zeal like Vikram Sarabhai made preliminary arrangements to give the final shape to the project.

The SITE was inaugurated on August 1, 1975 by Smt. Indira Gandhi, the Prime Minister of India at Ahmedabad. The TV Programme produced by the AIR, and ISRO (Indian Space Research Organisation) were telecast to all the 2,400 selected villages on 21 blocks of 5 states—Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Orissa and through the Satellite loaned by the National Aeronautics and Space Administration (NASA) of USA for a period of one year. The Satellite was known as ATS-6 which according to Wernher Von Braun, the distinguished Space scientist "could turn to be the most important advance since movable type as a means of reaching people separated by vast geographical, economic and cultural barriers."

In Orissa 354 centres in three revenue districts of Dhenkanal, Phulbani and Sambalpur were selected for the SITE and most of them were located in schools where educational

programmes viewed in day time and adult instructional programmes were viewed in the evening hours. During this one year besides formal regular educational programmes some training courses were organised for TV user teachers and science teachers with the use of TV programmes. The studies conducted by the ISRO, Ministry of Education, NCERT, Educational Technology Cells and some universities revealed that the impact of SITE on development and Education was quite inspiring.

After the SITE, the Government of India decided to provide TV viewing in 40 per cent of the villages by setting up low-power terrestrial transmitters in six SITE cluster areas in view of the infrastructure and studio facilities already existing in SITE Continuity programme. Besides other five SITE States, in Orissa Sambalpur area was selected for the purpose. The programme was inaugurated on April 30,1978 and now 115 TV sets are functioning in various primary schools within 40 kms radius of the Sambalpur town. The scheme is popularly known as Community Viewing Scheme and would be of permanent nature with expansion of area and extension of facilities to more schools from time to time.

Radio and TV Complementary

Radio and television are not contradictory to each other, may be competitive. In the advanced countries where TV had gone a long way and is immensely popular, there also radio has occupied a prominent place in the field of mass media of communication. Both the media are rather cooperative and complementary to each other. In 1960 Western Europe had about 82 million radio sets, but by 1970 it had doubled to cover 164 million. Within this decade in Japan the number (20 million) of radio sets had been more than four times (87 million) and in USA 156 million sets increased to 320 million and in Canada 9 million leaped to 21 millions. An interesting fact in this context may be mentioned here. In USA although there are about 215 million people, the

number of radio sets is 320 million. It is quite surprising of course! This may be partly explained by the fact that there are about 10 million sets fitted in private cars, taxis, buses, lorries as the Americans spend a good deal of their time in automobiles. In the developing countries television has not yet made any impact and radio has mostly monopolised the broadcasting field.

Every medium has its own strengths and weaknesses. Radio is good in one and bad in the other as TV is satisfying in broadcasting one kind of programmes and may be unsatisfying in another. Radio transmission can cover a vast area with natural barriers and one can listen to radio programmes very well while he is engaged in any physical, even in intellectual work. The infrastructure required for radio transmission is also not so sophisticated and expensive like that for TV transmission. The radio programmes also give ample scope for audience imagination, freedom and experience which are not allowed in TV. Television, of course, has its own unique and original contributions to make in broadcasting particularly in respect to motions, skills, artistic dexterity. On the whole, both media are potential for mass communication and should be utilised as mutually supporting and supplementing agencies. Both should aim at the universal wellbeing and education, unprejudiced information and entertainment.

In Orissa, radio and TV should develop hand in hand. Radio has already been accepted as an effective medium of communication and TV is yet to take its place in the field. Therefore now there are three Radio Stations and one or two are in the horizon of the State. The Community Viewing Scheme through Terrestrial Transmission is limited to a very small area in Sambalpur and its expansion during these last three years is not quite satisfactory. However, in view of the INSAT to be available in early 1982 it is hoped that TV transmission would be more popular and widespread.

A talk given in the Seminar organised by the Radio Maintenance Officers Association, Orissa on February 6, 1981 at Bhubaneswar.)

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HOW TO USE EDUCATIONAL RADIO FOR QUALITATIVE IMPROVEMENT OF CLASSROOM TEACHING

Background

Educational Radio in India was initiated as long back as in 1932 and its development witnessed a number of changes in the perspective and philosophical outlook of its production and broadcasting. In the initial stage emphasis was laid on improvement and enrichment in curricular subject with the help of educational programmes. Radio concentrated on the topics which were found "useful in widening the mental horizon of the students but which do not fall within four corners of the syllabus." Furthermore, the topics which could not be given due justice by an average institution owing to its constraints and by an average teacher due to limitations of his ability and time, were dealt with by the educational radio programmes.

After the second World War it was felt desirable to supplement the teacher's work and emphasize instructional aspects of the programmes. After Independence there was unprecedented expansion in education in respect to enrolment, number of teachers, accommodation etc., and only enrichment programmes did not find favour with the educationists and teachers. Some research studies and surveys also revealed the disliking for enrichment programmes. Thus in the Sixties accent was shifted from enrichment programmes to instructional ones based on curricular subjects.

Besides educational broadcasts for secondary schools, since the late seventies programmes for primary schools have been broadcasting which are mostly cocurricular and entertaining in nature. There are also specific programmes for the teachers' world in general and for teacher-educators and trainees in particular. They are closely related to the needs, problems and enrichment of the teachers as a whole.

Endeavours of AIR for improvement of Educational Radio

Now the educational radio programmes aim at improving quality of instruction. Whether they are in language or in history or in geography or in science or mathematics, the emphasis is on supplementing curricular instruction or classroom teaching. It is a fact that school broadcasts make endeavours to present curricular topics in pleasant styles and formats to be appealing to students. Of course, AIR usually distributes printed booklets and date-schedule among the listening schools. A few hints are also given for effective listening and a proforma is sent separately or printed in the booklet for collection of reactions of teachers on school broadcasts.

But these attempts are very nominal, rather symbolic and do not adequately serve the purpose. Unless sufficient suitable support materials are provided to the schools, school programmes cannot be made effective. These support materials may be techers' notes, students' workbooks, posters, wall charts, etc., which can give guidelines and information for successfully organising pre and post broadcast activities and reinforcement of learning suggestions may also be given to teachers for conducting follow-up programmes for the purpose.

Research studies and evaluative programmes are essential for assessing the impact of school programmes for ascertaining their success or failure. The findings would provide feedback for improving these programmes. The Audience Research Cell attached to AIR station has so far taken a very few studies in the field of school broadcasts. This is

natural due to the limitations of resources and personnel at the disposal of the AIR which is mainly a production organisation.

What should the Education Department do ?

The Department of Education may be called the consumption agency which ultimately stands to benefit from the school broadcasts. It should take initiative not only in providing and maintaining radio sets, but also in effectively utilising the radio programmes for improvement of education. It should lay down the policy and principles of educational broadcasting and indicate the areas in which radio support would be helpful and where average teachers lack competence. Therefore, a greater commitment on the part of the Department for utilisation of educational broadcasting is felt essential.

Another problem is the need for training the scriptwriters for educational radio. AIR is not able to organise such training courses in view of its pressing demands of production. Education Department is to implement training programmes for writing of suitable scripts which would lend largely to the production of better educational programmes. Even the training of user-teachers for effectively utilising radio programmes through organising pre and post broadcast activities, follow-up programmes etc., is found necessary. Such training courses are to be organised by the Education Department in succession and in collaboration with AIR and other agencies.

In most of the secondary schools, far less in primary ones, radio sets are not available for making the radio programmes utilised in the classrooms. It is one of the important responsibilities of the Education Department to provide radio sets to the schools either through giving grants or through enlisting public cooperation. In some States like Tamil Nadu and Andhra Pradesh, systematic drives were launched for provision of listening sets and these attempts met with a great success.

Our Attempts Made so far

With a view to making educational broadcasting an important medium for bringing about qualitative improvement of instruction, the Educational Technology Cell from its very inception in 1974 has been making attempts to solve the various problems experienced in this direction. It made continuous efforts for creating adequate awareness about the importance of educational radio programmes for improvement of education in general. Through various meetings, conferences, working group sessions, circulars etc., endeavours are being made to provide schools with listening sets, utilise radio programmes effectively, produce better programmes and evaluate for providing feedback and suggestions for further improvement.

It is heartening to note that the long standing gap or alienation between the AIR and the education department in the field has been removed to a great extent. Now there has been a number of collaborative efforts and joint ventures of these two agencies to make educational programmes a potential means of educational advancement and excellence. Working committee of educational radio programmes has been formed where media men, educationists and educators have been well represented and in its meetings problems for effective use of educational programmes are sorted out and solutions are suggested. Guidelines for production of suitable programmes are given on the felt needs of the teachers and students.

Due to intensive and persistent efforts of the E.T. Cell, many schools that were going without radio sets have now been provided with fruitful utilisation of unused funds lying idle for a long time. A large number of schools have got radio sets through voluntary help. Even repair/maintenance of the sets poses a great problem as in many schools radio sets are reported to be out of order. Hence a new fund for purchase of Teaching aids has been instituted in each schools

and this has enabled the school to find money for the purpose.

In order to utilise this medium to maximum for the benefit of students, head teachers have been requested to make provision for a separate period to be devoted to listening to radio programmes. A log book has been required to be opened and maintained by schools having radio sets in order to provide brief notes on day-to-day programmes and reactions of students and teachers thereto. Teachers' notes on languages like MIL(O) and Science have been prepared and produced for holding pre and post broadcast discussions and follow-up activities. The inspecting officers have also been requested to supervise this programme and enquire about its implementations as and when they pay visits to schools. Steps are being taken to organise scriptwriters' workshop as well as user-teachers' training courses for better utilisation and production.

The British Model

Educational radio has been immensely popular in the UK. Out of the total 36,500 schools there, 33,500 are found to be using radio programmes. It was estimated that in 1975-76, 91 per cent of all schools used radio. A large number of schools record the programmes while broadcast and use them as and when convenient and relevant. It is found from recent survey that 85 cent cent of the school radio programmes are used in the tape-recorded form. Educational broadcasting is regarded as an integral part of the whole teaching-learning process.

The teacher plays an important role in effectively utilising the radio programmes. He integrates his day-to-day work with the broadcasting. That is why, in 1970, Her Majesty's Inspectors reported that "school broadcasts are a major source of ideas and materials for teaching and learning." Teachers in fact have accepted school broadcasting as a

part of the resources for improvement of the standard of education.

Planning is an important step in the BBC programme. Programmes are planned in series each with defined educational objectives and target audience. A wide range of support materials including teachers' notes, workbooks, pamphlets, filmstrips, slides, wall-charts, tapes are produced by the BBC. The Education Department in India should take up this responsibility with more involvement. The Verghese Committee has also recommended for introducing more and more radio-vision programmes for our schools.

The School Broadcasting Council under the BBC is responsible for formulating policy and promoting better utilisation of broadcasts. It also evaluates educational programmes continuously. In the Council of Department of Education and Science, Local Education Authorities, Teachers' Associations, Inspectors and so on are represented and there is a team of Education Officers to visit schools and hold meetings for effective utilisation and evaluation of educational radio programmes. These Education Officers collect data and prepare evaluation report for discussion with the producers concerned. In our country such Councils should be set up for various states for better coordination and evaluation.

Conclusion

A national awakening has been evident in our country for utilising educational radio programmes in order to bring about expansion and qualitative improvement of education. The Government of India in the Ministry of Education, the Centre for Educational Technology in the NCERT, the Educational Technology Cell/Deptt. at the state level are making collaborative attempts for planning, producing and broadcasting suitable programmes relevant to the life, need and conditions of students as well as teachers and utilising them more effectively in improving the teaching-learning process. But

in this venture, close cooperation, involvement and commitment of all agencies concerned with the programmes are to be ensured for making the school radio programmes as rich learning resources and potential media for quality education.

(Through the courtesy of AIR, Cuttack).

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THE BRITISH BROADCASTING CORPORATION AND ITS EDUCATIONAL BROADCASTS

During my participation in a British Council Training Course on Educational Broadcasting and Audio-Visual Media in 1979, I was exposed to a large number of facilities and resources in the United Kingdom. Particularly I was interested on exploring the Educational Broadcasting system there with emphasis on the Sound Broadcasting which I felt the most potential and inexpensive medium for educational improvement in our country. In this context I not only came across the practical problems and technicalities in producing radio and TV programmes, but also paid visits to the BBC studio, the School Broadcasting Council, School Council, and schools both secondary and junior where I discussed with the officials regarding production and evaluation of programmes and with the teachers and supervisors regarding their utilisation. I was really amazed not only for the rich resources and autonomy of the BBC, but also for their built-in efficiency, innovation and unceasing attempts for bringing about improvements in the programmes on the basis of criticisms and evaluative comments. The high standards of the BBC programmes are undoubtedly due to their freedom, flexibility, open mindedness and progressive spirit in spite of the fact that English people and institutions are criticised for their conservative attitude and rigid structure. Here it will not be out of place to tell a few words about the BBC.

The BBC

The BBC or the British Broadcasting Corporation is based at London and has studios in many other parts of the United Kingdom. It is controlled by a Board of Governors appointed by the government but once appointed the Board has complete freedom and cannot be interfered by government in any way. Therefore, the BBC is not the mouthpiece of the government and can criticise the government's action and policy in any way it feels. Although it tries to be fair and balanced as far as possible in giving reactions to and allotting time for political parties, yet each party objects from time to time that BBC is prejudiced against it. For example, though Labour Party was in power, in 1977 due to some critical programmes of the BBC, it complained that the BBC was pro-Tory or pro-Conservative.

It is surprising to note that no licence is needed for the possession of a radio set, but a licence fee of 7 pounds per year is charged for possession of a television set. And this revenue meets the cost on all broadcasts except Open University Programmes which are paid for by the University and the Overseas programmes which are financed by a grant-in-aid from the Treasury. It is also interesting to know that there is no advertising on BBC radio or television and the BBC gets most of its money from TV licence fees only.

There are four separate radio channels of the BBC and there is a tendency of specialisation in each channel. Radio 1 broadcasts mainly pop music; Radio 2 provides light music, comedy and sports programmes; Radio 3 offers serious music, talks on serious subjects and plays of a classical nature; Radio 4 concentrates on the news bulletins, school programmes, talks and discussions, plays, etc. Besides there are special programmes for different parts of the UK and also local radio stations in a large number of cities and towns. The BBC also broadcasts special programmes about British and other countries in 40 different languages as well as in English to the whole world.

Educational Broadcasting

The BBC gets Royal charter because of the great value of the broadcasting services "as a means of disseminating information, education and entertainment." It fulfils its educational obligation through its programmes as a whole. It is believed that all serious broadcasting as well as entertainment programmes serve educational purposes. It is also accepted that the BBC can contribute more directly to the education of both—children and adults through programmes planned according to the interests and capabilities of audiences in mind.

The BBC educational programmes aim at providing children of different age-group with variegated experiences, widening their mental horizons, stimulating their creative faculties and encouraging their interests. Some series are designed to provide fresh insights and facilitate the growth of imagination and expression and promote individuality among children.

School broadcasts are planned in series each with a defined educational objectives and target audience. Usually 10 programmes are broadcast in each of the autumn and spring terms and eight in summer term. Most of the school programmes are for 20 minutes, some are for 10 or 15 minutes and a few for 25 to 30 minutes. Radio programmes are not normally repeated and most of the TV programmes are repeated. In the 1976-77 the total number of original radio programmes was 1,952 and only 56 were repeated whereas 714 were original TV programmes and 705 were repeated ones. The cost of producing and transmitting these programmes is entirely borne by the BBC and Local Education Authorities provide the receiving equipment and the support materials for better and effective utilisation of school broadcasting.

On a nonprofit basis the BBC offers a very wide range of material to support the broadcasts. These materials include teachers' notes, pupils' workbooks, work sheets, pamphlets, filmstrips for radio-vision programmes, film loops, wall-charts

and tapes. Teachers' notes are given highest priority and mostly written or edited by the producer. These are the direct means of communication between the producer and the teacher and provide advance information for classroom preparation and organisation of pre-broadcast activities. The pupils' materials are illustrated with photographs, illustrations, drawings, maps and so on. In radio-vision programmes, visual materials like filmstrips, slides are effectively integrated with audio content.

The use of school broadcasting has developed immensely since the inception of radio in 1924 and TV in 1957. Out of the total 38,000 schools in the UK, 33,500 schools are found to be using radio programmes. It is estimated that in 1975-76, 91 per cent of all schools in the country used radio and 86 per cent used television. Almost all schools are equipped to use radio and almost all secondary scdools to use television. For both radio and TV, Primary schools make fuller use of their equipment than secondary schools.[1] Another interesting fact is that a large number of schools record the programmes while broadcast and use them as and when convenient and relevant. As most schools have tape-recorders, it is found in a recent survey that 85 per cent of the use of school radio in secondary schools is in tape-recorded form. Recently therefore two concessions affecting broadcasts recording have been granted by the BBC. They relate to the extension of the retention right of such recordings from one year to three years and to the permission for bonafide Resources Centres to make and circulate recordings.

The School Broadcasting Council

Once we visited the School Broadcasting Council which is an important organisation for formulating policy, evaluating programmes, promoting better use and providing information. An Education Officer with the help of an overhead projector and a few radio and TV programmes explained the role and functions of the Council. It was pointed out that from the very beginning the BBC has observed the principle

that the guidance and sponsorship of the school broadcasting service should be vested in a body that would produce broadcast to schools only programmes requested by the School Broadcasting Council for the UK.

The Council studies educational practices and trends in the schools and considers in what ways the education can be aided by the school broadcasts. It formulated the general educational policy of school broadcast and determines the scope and objectives of each series of programmes. It considers the BBC plans for the implementation of its policies and approves, reiects or modifies them. It evaluates the programmes and publicise the support materials. The Council has a full-time professional staff and is financed by the BBC.

The Council consists of representatives proposed by the Department of Education and Science, Local Education Authorities, Teachers' associations, LEA Inspectors and Advisers in England, Scotland, Wales and Northern Ireland and also members appointed by the BBC because of their particular educational interests and relating to 3 age-groups (upto 8-9 years, 8-9 to 12-13 and 12-13 to 18 years) which mainly consist of teachers known for their ability and interests in educational broadcasting, representatives from the Department of Education and Science and the Local Education Authorities, etc. These committees are concerned with the objectives, nature and suitability of series intended for their respective age-groups, while the Council has to see the overall balance of the school broad casting. The Council itself meets twice a year and appoints the members of the 3 programme committees which meet 3 times a year.

The full-time staff of the Council is headed by the Secretary to the Council and there is a team of Education Officers based in various parts of the country and directed by the Senior Education Officer. The Education Officers are all former teachers with personal knowledge of the needs and problems of schools and deep understanding of the potentialities of broadcasting. They participate in policy reviews,

visit schools, hold teachers' meetings and attend national conferences. They are involved in teacher training and promotional activities with college, university departments, institutes of education, teachers' centres, LEA Inspectors and advisers and with HM Inspectors. They regularly visit schools to view and listen to programmes and to discuss them with teachers and pupils. There is also a Senior Assistant responsible for advance information and publicity materials for schools and a Resource Unit responsible for statistical information.

Cooperation between Radio and Television

Another salient feature of the BBC is the close cooperation between radio and TV working as two integral parts. They are under the operational control of the Controller, Educational Broadcasting uniting both media under the same administration. The two departments are jointly responsible for planning, preparing and producing programmes and supporting publications. They draw on the BBC's wide range of facilities—engineering staff, television studio crew, film cameramen, make-up departments, libraries, contracts, copyright and publication unit.

The School Radio Department has a staff of producers each responsible for one or more series. The producers select materials for children and decide the most effective and suitable form of presentation. They are invariably experienced teachers and specialists in their particular fields. It has rightly been said, "School radio and television are complementary, not competitive. There are many things that can be done well by both, others for which either radio or television is more effective. Resources both of air time and of money are scarce and the departments seek to avoid uneconomic overlap and to use each medium in the areas where it is most effective."

An Integral Part of the Entire Education

Educational broadcasting has been regarded as an integral

part of the whole teaching-learning process. The dissemination of knowledge, inculcation of desirable attitudes, growth of values and interests by broadcasting are normal parts of daily life. In schools the resources of broadcasting are part of the totality of resource materials available for teaching and learning. The wide range of programmes either recorded or "off-air" enables teachers to promote education more effectively and more meaningfully.

The role of the teacher in using the programme is deemed to be crucial and on him only depends the effective utilisation of the programme. This calls for understanding on the part of the teachers of the importance of broadcasting as an instructional medium. The teacher has to integrate his work with the broadcasting. In England teachers have proved their worth as real promoters of education through various media, broadcasting being unique of them. In 1970 HM Inspectors visited schools in England and Wales to study school broadcasting. Their report concluded, "School broadcasts are a major source of ideas and materials for teaching and learning" and noted that, "To use a broadcast a teacher has to go to a little more trouble than is involved in routine lesson... The great majority of the schools visited in this survey were prepared to overcome these difficulties because of the improvement in the quality of the education which could follow."

I hope, the school broadcasting system in England as discussed here will provide some clues for streamlining our activities in this field and for making school broadcasts an important instrument of educational improvement and expansion.

(Through courtesy of the All India Radio, Cuttack)

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7

EDUCATIONAL BROADCASTING FOR ADULTS IN THE UNITED KINGDOM AND THE LESSONS FOR INDIA

Anybody would be amazed to learn that in the United Kingdom where education has been compulsory upto Secondary stage and all kinds of educational facilities are freely provided to students upto the age of 16, there were millions of illiterate adults whose reading age was less than that of the nine-year old child! The reasons for this might be traced out partly in the educational system itself where for the last few years public examination has been abolished and detention is not encouraged; partly to the growing number of immigrants and mentally handicapped children. Although it was estimated that there might be two million of adult nonreaders, the number of functionally illiterates who were unable to read and write as required of a true citizen, would be immensely astounding i.e., six to eight millions!!

It was also very natural that in that advanced and elite society, illiteracy could not but be regarded as a stigma, a great blemish on the part of an individual. Hence concealment was the outcome of the feelings of shame and embarrassment. Therefore, it was a problem to find the illiterate adults out and ascertain their exact number. An illiterate husband used to hide his deficiency of illiteracy from his wife; an illiterate wife concealed hers from her husband. Even parents were not aware of their children's illiteracy. There was as such no demand and consequently no adequate provision for adult education and in about 40 per cent of

Local Education Authorities there was practically no provision at all for adult education till the early 1970s. Therefore, a joint venture was launched for adult literacy in the year 1972.

Educational Broadcasting for Adults

The BBC played a very significant role in this Adult Literacy Campaign not only to identify the adult non-readers, but also to motivate them to learn and enable them to open a new chapter in their life. The BBC Education officers took initiative to draw the public attention to the seriousness of the problem and the BBC programmes generated concern for the plight of the illiterate adults. Although there was scepticism in the BBC for the cost-effectiveness of its TV programme and ability of LEAs for providing adequate facilities for adult education, it left no stone unturned for contributing its share most effectively and efficiently. Even though the field was entirely new and of various dimensions, it made a major commitment of time and resources with a view to making a substantial national contribution. The most important point in this was that the BBC personneel were eager to learn from and correct their initial mistakes on the basis of tryout and feedback, as a result of which each series of programmes was remade until all of them were most suitable and effective. Continuous research would be going on into the future needs and impact of broadcasting. On the basis of its findings and consultations with LEAs, new plan for adult literacy was prepared to make a coordinated use of TV and radio programme and supporting publication with the following salient features:

1. The project would have dual thrust to contact and mobilise potential students on one hand and potential volunteer tutors on the other.
2. The most effective use of television would be in reducing anxiety and stigma, rather than in imparting instruction.
3. The television programmes should be transmitted in

peak viewing time where non readers might come across them.

4. The programmes would need be acceptable to the mass literate audience amongst whom non-readers were cancelled. Success seemed most likely if the programmes were shorter.
5. Serious attempts were made to use broadcasting to delve deep into the problem through all kinds of programmes not only through "educational" ones. Most of the efforts were geared to orient and involve the producers and presenters of BBC "general" programmes to make a common cause by communicating the messages of mass literacy in their own styles to their wide audience, whether for pop music or for current affairs.

The summer months of 1974 saw the early stages of the plan which was of great importance. Besides the budgeted figure of £800.00 for the first three years of broadcasting need was felt for about £200.00 for 'non-broadcast' activities.

These were:

1. The operation of a telephone referral service to which would-be students and would-be tutors might ring for help.
2. A contribution towards tutor training.
3. Research and experimentation into design and distribution of print materials for isolated adult with severe literacy difficulties.
4. Independent research into the effectiveness of the project.

Television programmes were produced which were suitable for non-readers. Useful radio programmes were prepared to help the volunteer tutors. A book appropriate for idolated non-readers was designed written, tried out and modified. Effective ways and means were adopted for distributing this book among people who did not go into bookshops and for whom the very act of purchase might risk disclosure of their difficulty. Similarly, another book was

produced for volunteer tutors to be useful as support and resource materials.

Television programmes entitled "On the Move" mainly meant for non-readers and radio series called "Teaching Adults to Read" for tutors/volunteers were produced and broadcast. The editors and producers of two very popular television current affairs programme (Nation-wide and Panorama) were interested in mounting items on the national literacy drive. Supporting materials were produced and distributed through various means and methods. Even the priced books were in heavy demand. For example, in 1975 the print order was given for 8,000 copies of the students' book, but the demand from bookshops and other outlets was for 50,000 copies. Obviously the book was bought by parents for children, and by immigrants, as well as the "real" target audience. It was gathered that students who came forward as a result of "On the Move" bought the book and used it on their own before getting tuition. Subsequently another series "Your Move" TV programmes were produced and on the basis of feedback a book with the same title was found quite effective and useful.

In 1974 a committee of enquiry in Britain set up by the Department of Education and Science to make recommendations about adult education rightly observed in the first page of its report that "the principal adult education force in Britain today may well be general television output of the BBC and Independent Television." This was the verdict of the Russell Committee on the basis of the programmes of any one week. This Committee also added, "Attempts have been made to link broadcast adult education with the educational service. BBC and ITV have stimulated the formation of viewing and discussion groups through institutions, voluntary bodies such as parent teacher groups and industrial firms. Both the BBC and IBA planned their output with the aid of advisory bodies widely representative of the world of adult education."

Modes of Educational Television

There are mainly three distinct though overlapping modes

in which educational television is used. (1) Many series are addressed to viewers at home. These are fairly accompanied by support publications whose sales are so large that they warrant the expression sometimes used in Japanese circles—"The unknown best sellers." (2) At the other extreme, programmes are closely integrated into an elaborate multi-media system. The chief example of this mode is provided by the Open University. (3) In between there are various ways in which programmes are used in combination with face-to-face teaching in adult education or industrial training institutes.

British broadcasting almost since its inception has provided a service of systematic education for adults. According to a British version of the definition given by the European Broadcasting Union, "Educational Television Programmes for adults are programmes arranged in series and planned in consultation with appropriate educational bodies to help viewers towards the progressive mastery or understanding of some skill or body of knowledge." This definition also includes programmes designed for class use (e.g. in technical colleges or in centres for adult education and also programmes designed for the home viewer). Again the Independent Broadcasting Authority has suggested a modified but a comprehensive version of the above definition on these lines. Adult education programmes are programmes aimed at leading adults to a progressive comprehension of a body of knowledge or acquisition of a skill in a defined field, which will contribute to the development of the individual and his understanding of a changing society, or equip him better for participation in community life. The attainment of this aim can normally be achieved: (a) when the programmes are organised in series, (b) when during or after transmission the viewers are encouraged to adopt a "participating" attitude towards the subject matter of the programme, (c) when the programmes are reinforced by other learning opportunities (booklets, enquiry service, correspondence courses, etc). These programmes should always be planned and devised in consultation with appropriately qualified advisers.

The Open University

The Open University is mostly an educational organisation meant for adults who are interested in continuing education, but are somehow deprived of formal higher education. It, from the very beginning, negotiated the unique partnership with the BBC which would produce 400 television and 400 radio programmes each year and would steadily increase the transmissions until they took up 30 hours each week in each medium (BBC 2 and VHF radio). The OU has already occupied 12 to 16 hours on radio and 15 to 18 hours on television each week. Students stay up late and get up early as the transmission are up to 1.00 a.m. some nights and start at 6.20 a.m. on Saturday/Sunday.

The BBC is represented on the Council and Senate of the OU, so that it has a real voice at the highest level of the University Government. It is also adequately represented on Faculty Boards and a range of Committees and Project groups. Below that, BBC producers are full members of the course teams along with faculty staff and educational technology staff. There are about 60 BBC/OU Production staff all well-qualified academically and it is amusingly said that when the course teams are together it would be hard for an outsider to sort the academics from the broadcasters except for the tendency for academics to talk about the medium and the media men to talk about the academic issues.

Lesson for Us

Although in our country National Adult Education Programme has been launched since October, 1978 with a view to vigorously fighting out illiteracy, educational broadcasting has not been adequately oriented and geared to the needs and directions of a true national drive. The BBC was involved in the Adult Literacy Campaign in Britain from the very beginning. Rather its Education officers took initiative in drawing the public attention to the seriousness of the problem and generating sympathy and concern among the people. Through its various programmes BBC made incessant efforts to show the plight of illiterate adults and motivate them to

learn. Of course it also made coordinated endeavours to provide adequate facilities for adult education through special television and radio programmes, telephone referral service, workbooks, handbooks and guide books. Even its share in non-broadcast services was quite considerable.

Such involvement of AIR and Doordarshan on a massive scale and their multipronged efforts in a collaborative manner are yet to be developed. Another point for emulation is that like BBC personnel our broadcasting personnel should be prepared to learn from and correct their mistakes in course of their experiences and field reactions. Thirdly, pre-testing of materials meant for specific programmes or a series of programmes directed towards a specific clientele is lacking. The system of try out or formative research has not yet taken roots and has not been received with whole-hearted support by producers. Fourthly, although in our country there are some facilities for research in the radio listeners reactions and comments, these are quite indequate and the findings so emerged as are not utilised for further improvement. Hence the feedback process is quite inoperative or ineffective in these important communication media. Therefore, summative research should be encouraged and feedback has to be emphasized for modification of the TV and radio programmes in order to make them more effective.

Lastly, provision of support materials in the form of printed and otherwise is lacking in our country Broadcasting without supporting materials cannot adequately serve the purpose and there are likely to be some communication gaps standing on the way of effective utilisation of radio and TV programmes. Therefore, all kinds of preplanning for non-broadcast activities have to be made from the initial stage along with broadcasting. With a view to making National Adult Education Programme a great success in India, we have to make coordinated efforts and systems approach for effectiveness of the mass-media and supporting services.

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8

WHAT SHOULD WE LEARN FROM THE BBC?

Any visitor to the United Kingdom will be impressed by the high standard of the BBC programmes both in the fields of radio and television. Since during my latest training course at London my main concern was educational broadcasting, I tried to delve deep into the organisational set-up as well as production and evaluation procedures of the educational programmes. Fortunately, the British Council provided all possible facilities and experiences through theoretical discussions, practical activities and on-the-spot visits. Now we will discuss a few salient features and examine whether we should try to introduce these practices into our system. Some of these characteristics may be in general and some are specific to educational broadcasting. But on the whole, they are mainly intended for bringing about improvement and innovation in the administration and functions of the radio and TV.

Autonomy and Freedom

Although the BBC is controlled by a Board of Governors appointed by the Government, once appointed this Board has full freedom and Government cannot interfere their activities in any way. So the BBC is in a position to criticise the action and policy of Government in any way it likes for the general well-being of the country. Similarly, it tries to be impartial and balanced not only in views, but also in actions by allocating time to political parties. Still the BBC is said to be prejudiced against one party or another.

Such autonomy is however possible to a great extent for the financial independence. Although no licence fee is needed for possessing a radio set, a sum of seven pounds is charged for keeping a TV set. And revenue from this source only largely meets the costs of all broadcast costs. Again, no advertising is allowed on the BBC and Radio. On the other hand ITV or ATV, another independent body is very soon becoming affluent getting rich revenue from advertising. It is interesting that the BBC has still maintained its moral standards keeping away from such allurement.

In India attempts are also being made for granting such autonomy to the broadcasting authorities. The Chanda Committee in 1964 set up by Government for improvement radio and television concluded that "it is not possible in Indian context for a creative medium like broadcasting to flourish under a regiment of departmental rules and regulations. It is only by an institutional change that AIR can be liberated from the present rigid financial and administrative procedure of Government". But the then government using radio and television as its mouthpiece naturally decided that the time was not opportune to consider the conversion of AIR into an autonomous corporation.

In August, 1977 the new Janata Government set up Working Group under he chairmanship of Mr B.G. Verghese to investigate the "functional, financial and legal aspects of the proposal to give full autonomy to Akash Vani (AIR) and Doordarshan (the TV Authority)." The proposal for giving such autonomy was an important issue in the Janata Party manifesto in the March 1977 general election and swiftly became one of the new Janata Government's major policy statements. Since the Government is committed to the freedom of all media of information and communication, it was hoped that sooner or later an autonomous broadcasting organisation would be coming to stay.

Planning in Broadcasting

Planning is an important step in BBC programme particularly in school broadcasting, programmes are planned in

series each with defined educational objectives and target audience. Besides, a wide range of materials is planned and produced to support the broadcasts. These materials include teachers' notes, pupils' workbooks, worksheets, pamphlets, filmstrips, slides, wall-charts and tapes. Teachers' notes are mostly written and edited by the producers and provide advance information for pre and post-broadcast activities.

Although in India attempts have been made for providing teachers' notes, the AIR has not been actively involved in the matter. Moreover pupils' workbooks and worksheets are yet to be attempted at and filmstrips, film loops and slides to make radio-vision programmes are yet a dream. Interestingly, the Verghese Committee has also recommended for introducing more and more radio-vision programmes for our schools.

Utilisation of School Broadcasts

Since 1924 and 1957 respectively radio and TV have been playing very important roles in improving education in the UK Their programmes have been spectacular and their acceptance in the schools is amazing. Out of the total 38,000 schools as many as 33,500 schools used radio programmes in 1975-76. That is, 91 per cent of all schools used radio and 86 per cent used television. The Local Education Authorities provide radio and television sets to schools. Moreover, a wide range of support materials are provided for effective utilisation of programmes.

Since huge amount is spent by the AIR for producing and transmitting educational programmes, it is the bounden duty of the Education Department to take all possible steps for ensuring maximum provision and utilisation of radio programmes. Nevertheless, as an important medium, radio will help improving the standards of education and it should not be neglected any longer in the interest of the better quality and massive expansion of education in the country. Endeavours should also be made for preparation and distribution of support materials among schools.

Evaluation and Feedback

The school Broadcasting Council under the BBC is not only responsible for formulating policy and promoting better utilisation of broadcasts, but also for evaluating educational programmes. The Council consists of representatives from Department of Education and Science, Local Education Authorities, Teachers' Associations, Inspectors and Advisers. There is a team of Education Officers in the Council who are all former teachers with immense knowledge and understanding of broadcasting. The Education Officers regularly visit schools to view and listen to programmes and discuss them with teachers end pupils. They collect data on the programmes and compile evaluation reports for discussion with the producers of the concerned series.

In our country, uniformly in all States, such Broadcasting councils should be set up with a view to formulating policies, utilising the educational programmes and evaluating the same for improvement and feedback. Unless educational broadcasting is broad-based and given due thoughts and attention by the State governments, these potential media cannot be fully exploited. This will be possible by mutual cooperation and activities through these State bodies consisting of media men, educational experts, field officers and teachers.

Cooperation Between Radio and TV

The BBC ensures close cooperation between radio and television. They are under the operational control of the Controller, Educational Broadcasting. Thus both these potential media are united and integrated under one administration. Besides, the two media work together in planning, preparing and producing programmes and supporting publications. School radio and TV are found to be complementary, not competitive. There are many things that can be done well by both, but there are some specific topics/subjects which can be done very well either by radio or television.

This kind of mutual cooperation and integration between radio and television have yet to be developed in our country. Otherwise they will not have better impact on the consumers

or clientele and will be uneconomic overlapping. If in the affluent country like the UK there is such practice for ensuring economic use of scarce time and money, what can we say about our conditions where all attempts should be made for reducing wastage and duplication?

Greater Involvement of Teachers

As already discussed teachers are involved at all stages from planning and production to evaluation. This is necessary for effective utilisation of the programmes. This calls for an understanding of teachers of the importance of broadcasting. Although it has been felt that teachers have to take more trouble for utilising the broadcasts, it is gladly accepted by them for improvement in the quality of education.

Could our teachers be involved in a large number in planning, and producing evaluating educational broadcasts? Could our teachers take a challenge for doing hard work and come forward with right earnest for making school broadcasts an important instrument of educational advancement?

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9

THE OPEN UNIVERSITY, A REMARKABLE ACHIEVEMENT IN EDUCATIONAL TECHNOLOGY

The Open University in the UK is a remarkable achievement in educational technology. The integrated planning of content and method has been brightly exemplified by this world-famous innovation. It has been strongly realised by the modern educationists and planners that the methods and media to be used in any teaching-learning situation may be considered at the earliest possible stage in planning. The methods and media will affect the resource requirements– both human and material, the environment requirements and the assessment requirements. This integrated process of curriculum planning and development has been well illustrated in the Open University. Its success relates to a great extent to the fact that educational technologists have been involved from the very beginning in all the course teams; content, method and assignment have been considered together with suitable media throughout their planning. It is also found that the Open University is probably the cheapest and the most effective method for spreading higher education.

Background

The University was first suggested by Harold Wilson, the erstwhile leader of the Labour Party in 1963. He made a statement outlining plans for a "University of the Air"—an educational system which would make use of TV, Radio and Correspondence Courses. Although many people laughed at

the idea it became a part of the Labour Party's programme for giving educational opportunity to those people who, for one reason or another, had not had a chance to receive further education. Plans were well-advanced by 1969 and the Open University came into existence in 1970. It received as many as forty thousand applications during the same year and only 25,000 could be accepted for one of the foundation or introductory courses offered in Social Sciences, Arts, Sciences and Mathematics.

The first course began in 1971 and the unsuccessful candidates were not disappointed as they were told to apply again in the following year when the foundation course in technology would also be offered. In January, 1971, the first educational programmes of the OU appeared on the air and screen and an army of clerks, farm workers, housewives, teachers, policemen and many others started their study as its students. Correspondence Units were carefully prepared and science students were given apparatus for a "mini" home laboratory.

Course Design and Curriculum Components

Now there are over 50 thousand students enrolled and nearly 100 different courses are on offer. More than 10 thousand students have already graduated and students are mostly engaged in different professions. Study was primarily done at home through special written correspondence talks, standard set books and specially produced TV and radio programmes. There is also scope for inter-personal communication at local study centres which is of course sporadic and optional. All students shall have to spend at least one week in residence at summer school on the conventional University Campus. The students' source of personal tuition is through correspondence tutor. Students get a credit by accumulating grades, six for general and 8 for honours. The grade is roughly equivalent to 10-12 hour study a week for 32 weeks. The academic year runs from January to November and students are continually assessed, and required to successfully complete at least 6 tutor-marked assignments per

year. They must also appear at an end examination under supervision. The courses are designed by teams of academics who are full-time employees of the OU and consist of BBC producers, educational technologists, full-time regional staff. A supporting staff of artists, teachers, photographers, librarians and so on help these teams. A course team decides the policy for the use of different media and methods and an individual programme is a joint responsibility of an academic and a producer.

Radio and TV Broadcasts

The BBC produces and broadcasts the programmes for the OU and provides transmission over 30 hours a week on a national TV network (BBC-2) and upto 30 hours a week on the national VHF radio network. The University pays the BBC from the money given to it for the purpose by the government and the BBC has set up a special OU production unit as one of its five educational broadcasting departments. This unit is based on a studio complex at Alexandra Palace, in north London, 50 miles from the OU campus at Milton Keynes. The BBC produces almost 300 TV programmes and 300 radio programmes for the OU each year. since courses last at least 5 years, there are now almost 1,000 radio programmes transmitted each year for the OU. Each TV programme lasts 25 minutes and each radio programme 20 minutes and each transmission is repeated later within the same week for the convenience of the students.

Tutorial and Counselling Services

The Open University has established 13 academic regions encompassing the entire UK. The staff of each regional office organise local student support services of which study centres are an important part. There are several components in the OU teaching system and the printed material forms the basic component which consists of texts, course units and various supplementary printed materials mostly on radio and TV broadcasts.

Since the OU is mainly based on correspondence teaching, tutors are appointed to guide and evaluate its students by

assignments that are completed by students at intervals during the course. These assignments are designed to instruct and assess the students and are marked either or both by computer and by tutor. The tutor-marked assignments are returned to the students with feedback on the level of the students' performance and suggestions on how to improve these works. Besides, correspondence and face-to-face tutorial are also conducted by the tutors. These tutorials are held about once in every 3 weeks for foundation course but only 2 to 3 times in all for many post-foundation courses. These are chiefly remedial in nature and not aimed at introducing new materials. It is found that when students feel these tutorials inadequate, they organise their own "self-help" group whereby the students help one another without an official tutor.

Every student is allotted to a personal academic officer called counsellor who like the tutor is employed on the part-time basis. He acts as a permanent local representative of the OU and advises students on academic matters at the foundation level. He concerns himself with the total academic progress of each of his students irrespective of a course followed at post-foundation level. The counsellor thus helps to humanise a remote and impersonal institution by advising on general, academic, administration or even personal matters and where necessary, acts as a student advocate. In almost all courses the OU students have to attend one week residential schools and such attendance is considered to be an essential part of this course.

Local Study Centres

With a view to providing human and physical resources to students, the OU opens local study centres in each region since most of the students are already hard-pressed for time. The study centre activities are optional and it is left to the students whether to attend the centre or study the course material at home. It may be mentioned that these study centres have been established to fulfil different needs particularly unique to the OU system of teaching. They provide

a location where remedial face-to-face tuition is conducted. where counselling services are rendered and where students help themselves. These centres also help in increasing students' academic activities which remove isolation and develop a sense of corporate identity as members of a wider university of the air.

The study centres like resource centres are equipped with radio and TV sets and a super-8mm film cassette machine or video-cassettes. There is also a library of audio-cassette and film cassettes which serves as a reference library and students are given access to the library facilities of the host institution. Even some selected study centres have a computer for the students whose course contains computing elements. On the whole, each study centre has an atmosphere of learning and warmth of friendship developed through social activities. Many centres have a committee with members drawn from among students and counsellors for developing the sense of a "local community" among all members of the centre.

Research and Feedback

As research and feedback are essential for improvement of the system, an Institute of Educational Technology has been set up for the purpose by the OU as early as in 1970. Even in the early planning of the University, research was carried out into its teaching system. The broadcasting programmes were closely integrated with the other components of the teaching system particularly the correspondence texts. The educational technologists are required to conduct research into broadcasting as well as to provide educational advice to course team. They play a very influential role in the curriculum planning and development which constitute (a) structuring course, (b) defining objectives, (c) selecting media, (d) preparing materials, (e) assessing students and (f) evaluating course. Moreover, the BBC producers working for OU were anxious for feedback unlike their colleagues elsewhere. The Institute of Educational Technology also works hard for this.

On the whole, OU is now providing multi-media packages not only in almost all courses, but also at all levels starting from foundation to Honours and Post-graduate courses in many disciplines. As there is no basic qualification for entry to OU and most of its students are deprived and handicapped in some way or other, this University is the most socialistic in nature and spirit. Since the weaker students prefer printed materials to other media and teams of academics prepare huge amount of correspondence texts and other support materials, OU is called the biggest publishing house of the world. It is also known as the most evaluated University as its programmes and materials are continually assessed and developed. It has thus set a model for other countries, in the field of open or distance learning and educational technology, both for expansion and qualitative improvement of education.

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10

EDUCATIONAL RADIO PROGRAMME AND SCRIPT-WRITING

Importance of Radio in Education

Radio is an effective medium. It is also comparatively inexpensive. It has occupied a significant place in communication. It is also playing an important role in education. It not only informs, but also inspires. It not only inculcates values and virtues, but also creates attitudes, interests and appreciation. It can cover a very wide area at the same time. There is already a well-developed infrastructure, a background of long experience to its advantage.

Educational broadcasting has, therefore, immense, possibilities. Particularly in developing country like India where constraints of finance, efficient teachers, suitable equipment and appliances adversely affect educational planning and administration, radio is to play a significant part in expansion as well as qualitative improvement of education. India is still having some inaccessible areas where expansion of education has faced difficulties. To a large number of socially disadvantaged children, education is not meaningful and interesting. There has been a growing awareness about the inadequacy of the traditional or formal system of education not only for expansion but also for improving the standards of education. The need for alternatives in the shape of non-formal education, distance learning and correspondence courses is gradually felt imperative.

Achievements of the Educational Radio

Throughout the world, educational radio programme has become popular and in certain countries it has worked wonders. These countries represent both developed and developing world and the radio programmes have been found effective both in the formal and nonformal systems of education. Wilbur Schramm and others in their research work "The New Media: Memo to Educational Planners" have elaborately discussed the achievements of various media in the field of education and training. Especially the use of radio is quite remarkable in Algeria for meeting the post-independence emergency in the shortage of teachers by providing preservice and inservice training, in Australia for extending the school facilities to far flung, sparsely populated areas situated hundreds of kilometres away from the nearest schools, in New Zealand for providing educational opportunities to remote families, in Niger for teaching teachers.

Besides Schramm and others, Goodman, UNESCO expert in sound broadcasting in his paper "Educational Radio: Some Notes on its Potential and its Utilisation"[1] has narrated the successful stories of educational radio in three countries. In the Australian State of Tasmania, a new form of handwriting was introduced with massive preparation and cooperative efforts. In Papua New Guinea, with 700 linguistic groups, English was taken to be the common medium of communication by utilising various well-designed print materials and other techniques. In Indonesia, radio was able to provide inservice teachers' education through an extensive pilot project. Thus, we have ample evidence of the achievements of educational radio in different countries of the world. Educational Broadcasting has also been used for enrichment purposes, for nonformal education, for open school and open university systems.

Limitations of the Radio

Radio has a number of inherent limitations. It is a medium dependent on sound only. It demands a habit of

constant listening which is not ordinarily available with many. Radio may broadcast a well-developed lesson, but cannot develop a lesson with the audience. No interference or control over the broadcast is possible to suit the special needs and interests of any group. S. Rahman[2] has rightly pointed out "Radio broadcast is evanescent, impermanent and rarely sufficient in itself for the core of instruction intended in educational broadcasting. It cannot be turned on to be studied or reread at leisure.

In radio programmes there is no scope for interpersonal contacts and interaction between the artist (here radio teacher) and the audience. So the elements of motivation and inspiration are usually lacking in the sound broadcasting. Audience cannot see the performer nor the performer is able to see the audience. It, therefore, makes a lot of difference in the approach and techniques. Sole dependence on sound and complete absence of any visuals make this medium quite different from television or film and establish it on its own merit. G.C. Awasthy[3] has aptly said, "In radio, the artists and his audience are nowhere near each other. In the physical sense they are nonexistent to each other. The basic fact about radio art—and this is the overriding fact—is that it is entirely an oral art with a complete absence of visual components. This is at once the weakness and the strength of radio as an art form."

To most of us listening is very exacting and to some it is taxing also. Since radio calls for listening only from its audience, it has to perform a difficult task. Donald McWhinnie[4] discussing the true nature of radio has observed that we are used to seeing and listening simultaneously and listening only proves inadequate or the effect demanded too exacting. Asking for imagining a piece of conversation in a dark room, McWhinnie has added "The words acquire a compulsion of meaning they did not have before, they develop a richness of texture through being isolated and you focus your sensibility and imagination on them as you rarely do in daylight." That is why, radio as a medium makes the

heaviest demand on the listener's imagination and sensibility. The listener has to make the experience gained from the radio his own, by relating it to his own terms of reference or his own background.

What Can We Do to Overcome the Limitation ?

With a view to overcoming the limitations in the radio broadcasting, the following steps should be taken up.

1. Since sound is the only means of communicating message in the radio broadcast, it has to be supported with printed materials, illustrations, posters, slides, filmstrips etc., as well as discussions.

2. As the programme is on the air, we listen to anything only once for all and everything changes from moment to moment. In order to make an impact, it must draw attention right from the start and continue to sustain the interest of audience throughout. This will be possible only by adopting certain attention-drawing, interest sustaining techniques.

3. Sound being the only medium in radio broadcasts, it has to be enriched by variety and reality in music and sound effects. By this the absence of visuals is mitigated and the deficiency made up giving ample scope for audiences' imagination.

4. Suitable script should be developed as a framework of the radio programmes giving adequate scope for generating interests, sustaining suspense or curiosity throughout, and shedding new light and sound.

5. Scripts are also to be properly handled by the producer in producing programmes. Awasthy[5] has nicely observed, "A radio script, no matter how well it is written, is but the bare bones of a programme. What counts is how well it is put across. Between the script and its broadcast lies the whole technique of production and the success or otherwise of the producer."

Lastly, it may be pointed out that educational radio has to utilise selected subject areas for clearly defined purposes.

It should have emotional appeal, power to stimulate the imagination to bring the external or distant world to the classroom and to recreate an event or episode from the past life or history. Thus, the choice of material and formal optimum use of sound and musical effects, utilisation of suitable techniques and treatment would ensure success of educational broadcasting.

Scriptwriting

Scripts being the basic framework of educational programme, utmost care should be taken to make it suitable for reflecting the above concepts and principles. In this context the guidelines developed by the British Council Media Department London[6] are found to be quite concise as well as comprehensive, very meaningful and relevant. They are given below:

Radio Writing **"Writing to be Heard"**

1. The script is the most important part of a radio programme. Unless it is excellent, every other aspect of production is useless.
2. To be successful it must be written in the right language for the listener.
3. The right language is the language the listener can understand. So it must take into account the listener's background, education and interests. The writer must, therefore, think carefully about the structure he is going to use and the vocabulary.
4. The words the scriptwriter uses are not *read* by the listener—they are *listened to*. So the words must appeal to the EAR not to the EYE.
5. Writing for the EYE relies on the conventions of writing, punctuation, paragraphs, type, size, columns and headlines. The reader can go at his own speed. He can go back to check any point of difficulty. He

can stop reading, put the writing on one side and return to it later.

6. Writing for the EAR is quite different. The listener cannot be given too many facts. He cannot be given too many figures. It is essential to keep holding his interest, therefore, the script must be presented in an interesting way. *It must develop logically.* The radio writer may have to repeat, expand and reinforce. He must use the form of language which is *simple* and *informal.* It is SPOKEN LANGUAGE. The listener must be held, otherwise he switches off mentally or physically.

7. *How* is the listener held? The radio writer must think of the listener as his personal friend...

   He must talk *with* the listener, not *at* him.

   He must hear in his mind all the *tones of voice* that will communicate the script.

   He must *visualise* the listener.

   He must read the script aloud to himself and ask—

   "What do I sound like?"

   "What do I mean?"

Present Practice

Although Akashvani is responsible for production of educational radio programmes, it depends on the outside resource persons for preparing scripts. However, necessary editing of the script is made by the Producer, Educational Broadcasts or his Unit. A case-study of school Broadcasts at Delhi[7] revealed that "It is mostly of the nature of substituting some difficult words with simpler ones, and or curtailing/adding the spoken matter. (The accuracy of facts presented in the material is generally accepted, as no other subject matter specialist is consulted in the matter). This practice allows a material passed off for broadcast without providing a safeguard for checking its accuracy at the editing

stage." This practice at New Delhi holds good for all the Akashvani stations and the instances of such errors in educational programmes are also not rare.

What can be done

Hence writing of scripts free from all errors thematic as well as linguistic is very important for success of the job. The scriptwriters are usually appointed from among subject experts which does not always happen well. Therefore care should be taken for preparing fool-proof scripts for the purpose. It is better to get them approved by subject experts then use for production of programmes in presentable form by the producer which is a media man.

It was thought desirable as well as more practicable to train the specialist to write scripts, for educational radio. In order to write suitable scripts, besides content knowledge, the writer should have knowledge about various formats, audience profile, different techniques for attracting attention and substaining interests, ability in creative expression, proficiency in language and presentation styles and techniques. During a training course or workshop, the prospective scriptwriters should be exposed to these theoretical as well as practical aspects of the programme. It should be realised that good scriptwriters are not born but made through sincere efforts, long practice, keen interest and love for the job.

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11

TELEVISION BRINGS THE WORLD INTO CLASSROOMS

Television is the most powerful medium of communication. It has revolutionised lives of many peoples in the world and has potentialities to remarkably affect our lives within a decade. It has been aptly said by an American author, "Television has literally captured the country. Its expansion has been much more dramatic than that of radio or the automobile. It has become an important part of our way of life, so much so that it is difficult to say whether it is a luxury or a necessity."[1]

According to James W. Brown and others, the following are the special advantages of television.[2]

(i) It is a convenient and economical means of reaching enormous cross-section of the population with simultaneous presentations.

(ii) It combines the best elements of radio with the potency of motion pictures.

(iii) It is capable of helping to overcome learning barriers for many persons—presenting important ideas, moulding attitudes, providing information in ways which demand neither high verbal proficiency nor physical presence at the scene of action.

(iv) It is a means of multiplying "personal" contacts for

outstanding TV instructors with audience all over the country or the world.

(v) It is capable of helping to bring about needed social improvements and developments.

(vi) It capitalizes upon immediacy, upon the "here and now" aspects of communication.

Educational Television

Educational television generally denotes any television used for education of the community. That is why, sometimes it is called community Television. The Federal Communications Commission in 1952 have given widespread recognition of educational television attributing the following scope of activities.

(a) Liberal education and cultural improvement.

(b) Informal instruction for adults.

(c) Instruction at home and business.

(d) Children's programmes.

(e) Formal instruction for adult.

(f) In-School instruction

However, as a convenient means of differentiating between community educational television programmes and the use of television for direct formal instruction the term Instructional Television (ITV as different from ETV) is often used. This omnibus term necessitated by the exceptional variety of use of Television in schools and colleges, is meant to describe the use of television for formal courses regardless of age, or grade level and for in-school instruction in parts of courses for direct teaching or for facilitating lecture-demonstrations.[3]

Characteristics

Television as a versatile, dynamic and powerful medium has immense capabilities for influencing education. It is a new medium of communication, not a new method of teaching and learning. Its effective use is based upon the same

fundamental psychological principles of learning which apply to all successful processes of learning. The proper use of television provides new incentives for students to assume more responsibility for learning. It is also a fact that effective television teaching demands more preparation and the assistance of more specialised personnel than does conventional instruction. Television is not a self-contained educational entity, but an instrument which is significant only in the particular educational situation in which it is employed. It provides new and better ways of relating the activities of pupils, teachers and parents and demands a continuous appraisal of the ways in which it is or may be utilised. Television as a concern of all-planners, administrators, teachers, parents and media men imposes responsibility for and emphasizes the need for cooperation and collaboration among these agencies.

Special Significance

The special significance of educational television lies in the fact that it can use all other audio-visual materials. Franklin Dunham, Chief of Educational Radio-Television in the USA office of Education has aptly said, "As a communication medium, television is unique in its ability to bring many other aids into classroom. Every audio and visual help we have ever known can be carried by television-motion pictures, film strips, slides, recordings, drawings, maps and countless other instructional devices."[4]

Another advantage of educational television is the quality of immediacy. Current events can be brought to the classroom as they happen. The celebration of the Republic Day near Rashtrapati Bhawan, function of the Independence Day at the Red Fort, Oathtaking ceremony of the President or the Prime Minister, and such other events of national and international importance can be flashed immediately in the classroom through television. Students and teachers can see the great personalities in science, literature, art, politics, etc., and gain direct personal experience.

Television is also not limited to current events. It can

recreate the past with new life and spirit and gives breath to the dead personalities. Rather, with dramatisation the historical anecdotes are made more living and meaningful to the current situations. The wars of Panipat, the Sepoy Mutiny or the durbar of Akbar or Shahjahan can be recreated with life and vigour.

No medium of communications has the versatility of television. The most inaccessible places of the world can be viewed through either live or filmed programme. The wonders of the world, natural or man-made, can be brought into classroom. Television can be suited to any age, grade level. TV programme may be produced on any topic in art, science, literature, geography, history, music, dance, or any subject on the earth. The BBC programmes like "Life on Earth", "Tigress" are living examples of such TV marvels.

Educational television is capable of creating interest and motivation in both children and adults. Children run home after school hours or leave play ground earlier in order to view an interesting programme on television. Even adults may stay away from parties, movies or any merry-making for the same reason. Living example often motivate the audience to do a particular work.

Educational television also facilitates training of teacher as the student teacher or any other teacher observes good teachers in action and imitates various aspects of teaching and teaching skills. Simultaneously it also reaches a large number of persons which is otherwise impossible.

Educational television also helps teachers and parents in the mutual understanding of each other's problems. As parents view their schools and their children in action, they are able to understand and take more interest in the school programmes. Even the teachers and pupils can realize their strengths and weaknesses and are made conscious of their parts and talents lying dormant or dead.

Contentions

Expansion of Educational Television or ITV coverage is

irresistible. Its impact is immeasurable. Television is already being used in schools more and more widely in almost all advanced countries of the world. For example, in the UK the number of schools registered with the broadcasting authorities as viewers of school programmes was about 6,000 in 1964 and increased to 15,000 in 1966. In 1975-76 the total of schools using school broadcasting was 33,500, 91 per cent using radio and 86 per cent TV. Teachers in the USA reported that some children seemed to profit in vocabulary, reading readiness, cultural and scientific interests. But they also reported that since children had accepted television so completely they had become indifferent to nearly everything else. It is similarly found that children benefit more from the Educational Programmes on Science, Social Studies, Language Learning etc., than from anything else. There are complaints that some high school students spend more hours per week before a receiving set than they spend in school.[5] Television programme is criticised to be the most expensive and sophisticated medium. Huge amount of expenditure is involved in providing sets and in maintenance and utmost care should be taken in utilisation. Otherwise, there would be enormous wastage which most of the developing countries cannot afford.

Research and Studies

Educational Television has thus raised more controversies, more doubts and misgivings than any other innovation in education. All this has led to more research and evaluation studies than in any other medium of communication.

Schramm's review of 393 studies comparing educational or instructional television with conventional classroom teaching in schools and colleges supported the following generalisations.[6]

(1) Television has been used with greater success in lower grades than in high schools or colleges.

(2) Television instruction appears to have been most successful in Mathematics, Science and Social Studies and less successful in history, the humanities and literature.

(3) Elementary school students seem to learn more from telecast instruction than do high school and college students.

(4) Particular subjects e.g. demonstration, experiments, etc., are more effective than student-teacher interaction and discussion.

(5) Attitude of college students towards televised instruction are less favourable than those of high school students.

(6) Most teachers who have taught on television or who have used it in their classes are apt to like it and those who have not tend to be suspicious and resistant to the media. But in case of elementary teachers, such resistance does not last as they learn to accept television as a teaching resource.

(7) There appears to be more resistance to television teaching at the college level than at school stage.

The exploratory study conducted by the Ministry of Education in collaboration with the Educational Technology Cell, Orissa and Doordarshan Kendra, Cuttack is a pioneering study not only in the state but also in the country and its following recommendations are of great significance from production and utilisation point of view.[7]

(i) The first recommendation of the study is to set up a working group which will go into all aspects of the needs and requirements of the television process as the close collaboration between producer, educationists, teachers, planners and others is essential for planning, production and use of Educational TV programmmes.

(ii) The study has revealed that television can successfully communicate to a broadly homogeneous group, consisting of teachers and pupils. The Working Group, it is recommended, should concretise the approach for commonality of interest and needs of the group and develop the objective for television

and select the appropriate areas for the use of television.

(iii) Since the use of television will make considerable demands on the resources and ingenuity of teachers, necessary support materials may be provided and the teacher may be exposed to good programmes for a reasonable period.

(iv) The study has also revealed that students are more receptive and better responsive to the Educational Television programmes than teachers. That is why, students can be motivated to receive the message directly even without the help of teachers.

Our Experiences

Only during the sixties Television came into operation in Delhi, Bombay and a few cities of India. Now several cities have the facility. But under Satellite Instructional Television Experiment as many as 2,400 villages had the rare privilege of viewing Television Programme. Rural audiences poorly served by modern media of communication were brought face to face with the medium of television. During the full one year experiment from 1st August, 1975 to 31st July, 1976 they were to view instructional and educational programmes on the broad theme of national development and the message that came through moving images and other unfamiliar techniques of visual presentation.

In the SITE cluster areas a mixed group of Primary school children, between the ages 5 to 12 years and their teachers watched instructional Television for the first time. The teachers were prepared to receive and use this medium through a three-day orientation course organised by the Educational Technology Cell in collaboration with CET NCERT, New Delhi. The course concerned itself with the logistics of seating children, handling of television set, conducting pre and post telecast discussion. Subsequently, teachers were provided schedules and teachers' notes on programmes to be telecast for better utilisation.

The Educational Technology Committee consisting of

education administrators, educators and media men in its meetings discussed and decided the topics on which programmes were produced and also previewed a few capsules. The Upgraha Doordarshan Kendra, Cuttack had the full responsibility for production of programmes. Total 113 original ETV programmes were produced and the formats adopted for them were ranging from chorus song to documentary films. The programmes were hard-core, soft-core and soft entertainment core in nature. Besides, there were the science programmes of ISRO which were telecast to Primary schools on all working Mondays and Thursdays.

With a view to locating youth talents and giving the orientation in writing suitable television scripts, a 10-day workshop was organised by the Educational Technology Cell in collaboration with the CET and Doordarshan Kendra. During that in-service training in science was given to about 6,000 teachers of Primary and ME schools using a Multi-media Package consisting of radio and TV programmes, experiments, enrichment materials and tutorials, developed by the CET NCERT. It was unprecedented and unique due to the fact that such large number of teachers were trained simultaneously with the use of so many media during 10 to 15 days.

Television is being gradually expanded to the SITE areas and also non-SITE states. Educational Television programmes are being put out for increasing number of Primary schools. The Indian Satellite is expected to become available in 1982. In Orissa, however, terrestrial television coverage was launched since April, 1978 at Sambalpur within 40 kilometres of its radius. Subsequently with expansion of terrestrial Television coverage and use of an Indian Satellite the entire state even the whole country will get the benefit of television transmission. But it is our responsibility to utilise this potential medium in realizing the desired educational objectives as well as the national goals. With close collaboration of all concerned agencies and systematic preparation for effective utilisation, we have to achieve our ends.

(Presented in the State-Seminar on Educational Technology held on the 27th and 28th February, 1978 at Regional College of Education, Bhubaneswar).

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12

WRITING FOR EDUCATIONAL TELEVISION

What is Television? Once a boy replied, "It is like having radio and film at the same time." In fact, television is like radio in that it can communicate news as it happens and it is like a film in that it appeals to both sight and hearing.

Television gives a visual image of the message and uses a language that transcends all barriers of natural speech. It speaks with a new immediacy to men and women of all tongues, of all colours and of all religions. Edward R. Murrow has aptly observed, "Television will mean to the twentieth century what printing meant to the fifteenth. Images and pictograms preceded printing. "Television will restore art and pictures to the people."

Television is interesting and enlightening to all ranging from children to old. Children come home from school early and even pass up play time to see a favourite programme and adults stay away from parties, movies or other gatherings for the same reason. Interest in many aspects of life from sports to science, from politics to dramatics is sharpened by TV techniques. The music of TV marvels, motivates and moves the audience through visuals, immediacy and interests.

TV Scriptwriting

Script is one of the factors responsible for success or failure of television. Besides, electronic motion pictures

with attendant sound effects, script provides the basic edifice of the whole programme. It is a kind of map, a blue-print of what is going to be in the TV programmes.

Although writing a script on a given topic differs from one to another and treatment of the topic varies from person to person, there are certain common basic features in all scripts. The TV scriptwriter should keep these points in his mind. These are as follows:

(1) *Kinds of audience*: The scriptwriter must know the age group, socio-cultural background and psychological profile of audience to whom the programme is going to be addressed. The interests, attitudes and inclinations are to be taken into account. Homogeneity or heterogeneity, rural or urban nature, industrial or agricultural culture of audience are considered for writing a script.

(2) *Objective of the Programme*: Besides general objective like instruction or education or entertainment expected of a programme, specific objectives have to be determined at first. For example, an educational TV programme is spelt out in terms of learning outcomes and an adult programme is expected to achieve citizenship or family planning objectives.

(3) *Genuineness of information or facts*: The scriptwriter is required to make use of various resources like books, charts, graphs, pictures, film clips in order to prepare scripts on different topics. He must collect data from many sources and arrange them systematically. Thus resources are felt essential.

(4) *Treatment of topics*: After collecting and arranging data the scriptwriter has to make all attempts for presentation of the topic in an attractive and effective manner. At this stage he must think of such audio-visual aids as are available and suitable for the job.

(5) *Format of the Programme*: A programme may be prepared in various format—drama, feature etc., with graphics,

animation, and so on. Limitations are imposed by the needs of the TV studio, funds available for making the programmes, facilities of the studio time and personnel. Suppose there is no dearth of any facilities, money, time, personnel, one can use dramatic forms which would need several rehearsals, use simulated situations and utilise clever devices like animation. But resources are very limited and an imaginative scriptwriter is required to use available resources in the most effective way. For example, in order to deal with 'volcano' in a programme effectively, the scriptwriter may suggest to use a film clip of a volcano actually erupting with the lava flowing down and accompanying sound track of the rumble of the volcano. This film clip would be able to give a better idea about the phenomenon than thousand words can give.

(6) *Feasibility and Practicability*: Thus many things can be thought of theoretically to make a good programme but in actual practice the scriptwriter has to think in terms of what is feasible and what is practicable under the circumstances. He works under certain constraints, and at the same time he has to think of a possible way to communicate the relevant concepts in order to ensure the learning outcomes that he has in his mind as objectives. Under the SITE, the audience both for evening and morning programmes were not only rural, but also they had hardly any experience with the modern media or pictures that talk and walk. That is why, the scripts prepared for SITE programmes had to be fairly simple and non-exotic. Many programmes failed to make their impact because the scriptwriters were not aware of the difficulties of language, mental make-up and image perception. For example, the device of flash back i.e., breaking the time of the story when a person is reminiscing or dreaming or showing what happened in the past works well with the sophisticated audience, but proves very confusing to rural audience not exposed to modern media.

(7) *Peculiarities of the medium*: The scriptwriter must also consider the peculiarities of the TV programme particularly its fleeting nature or temporalness and its oneway communication. The images succeed one another very quickly and cannot be caught hold of at any point for minute observation. It is therefore necessary that the points to be emphasized should be repeated or explained in detail and any abstract idea to be communicated must be explained in terms of the audience's experiences or by using suitable visuals or through demonstrations.

(8) *Utilising as a visual medium*: The scriptwriter should not forget that TV is mostly a visual medium; its importance lies in visuals, not in words only. Vision and sound should go together and in a very balanced manner complimenting each other. It is not necessary to use words when a picture will do. The writer of a TV script should think of his topic in terms of telling a story in series of pictures. That is why, a story-board is a must in TV programming.

(9) *Presenting in a humorous and light-hearted tone*: Although most of the topics cannot be presented in a humorous manner, attempts should be made by the scriptwriter to put light-hearted amusement in the programme. All programmes should not be appreciated with a heavy heart nor in a very humorous way. But they should be presented in an attractive and pleasant manner for having a better impact.

(10) *Pre and Post Telecast Preparation*: It is thought that the TV scriptwriter is concerned only with the content of the programme. But he should keep in mind what need be told to the audience prior to and after the programme, so that they can be properly motivated and enlightened and many of the new concepts and ideas would be made clear and meaningful. Therefore the BBC scriptwriters or producers often prepare support materials and notes on their specific programmes prepared with clear-cut objectives for pre and post telecast activities.

The Draft TV Script

The writer keeping in mind his audience with their background, his objectives and peculiarities of the medium should arrange his content along with visuals in order to make the programme effective as well as interesting. He should visualise the sequences of the entire programme with the help of a story-board—a series of drawings with accompanying notes as to the proposed commentary. As the process is very complex, it takes a long time for repeated modifications and finalisation of the script before the final camera script is completed.

The following are the guidelines which should be borne in mind for writing a TV script.

1. The script must be simple, direct and personal.
2. It must be written with a full knowledge and involvement of programme visuals.
3. The presenter's style and personality should be taken into account.
4. It must stress and recapitulate its salient points.
5. It should involve and address the audience directly.
6. It should have variety of pace and rhythm and give occasional "breathing spaces" especially in the middle of the programme.
7. It should not attempt to say too much in the time available.
8. It should suggest the suitable visuals, sound effects etc., alongwith the commentary.
9. It must note the demands of the electronic studio with its facilities as well as limitations.
10. It should end with a simple resume of the programme's main points possibly with a different visual presentation.

The TV writer has to prepare his script taking all these points into account. He must be in a position to visualise

the sequence of the programme and modify, his draft repeatedly to suit the audience and put across his ideas clearly and meaningfully. He should keep in mind the objectives, clientele, its profile, content, etc., on the one hand and the limitations of time space, and resources of the studio and personnel on the other. The TV scriptwriter should therefore be skilful, creative, imaginative and resourceful.

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13

RADIO AND TELEVISION FOR TEACHER-TRAINING INSTITUTIONS

The Educational Technology Programme is essentially aimed at improving the quality of education and widening access to education through the utilisation of the mass media of communication and all kinds of audio-visual aids to instruction. Education involves the transfer of knowledge, information, skills, attitudes, and interest from the "Source" the teachers to the "Receiver" the taught. Till recently this communication process depended mainly on the spoken word through the medium of the teacher, supplemented by printed materials and occasionally facilitated by the use of audio-visual aids.

The Educational Technology or development in the communication media has placed at our disposal the means to transfer knowledge etc., more effectively to larger number of receivers (students) at multiple points irrespective of the distance between the source and the receivers. This also implies the full deployment in education of the new means of communication and embraces all educational means, methods and media offered by communication technology for effective dissemination of information, knowledge and skills.

In the Indian context, educational technology is found capable of serving the national priorities in education efficiently and effectively. The major thrust of E-T. Programme should be to promote the universalisation of elementary education and adult education. Besides, educational technology will widen the opportunities for secondary as well as

teacher education. Therefore, widespread use of radio, television, printed materials, graphics and other media should be made both in formal and non-formal education systems. Teacher-education being the "Key" or "Seed" sector of education, cannot and should not keep itself aloof from the utilisation of different audio-visual media in a planned and coordinated manner for qualitative improvement of education.

In this paper attention is being drawn to two potential media—radio and television and discussion is being made on the effective utilisation of both radio and television programme in the context of teacher-education. It is wrong to presume that radio and television will replace the teacher. But it is a fact that these two powerful media will help the teacher in enriching and supplementing learning experiences and making his teaching more effective and meaningful. They can bring the outside world into the classroom and make many difficult concepts clear, interesting and relevant. Thus education, in general, is made efficient as well as effective by means of these two media.

Radio

Radio is an expensive, but powerful medium and can be used in education very effectively and efficiently. It offers the possibility of extensive deployment in education, because of the available infrastructure, comparatively low cost of receiving sets and producing programmes. The radio programmes supported by pre and post broadcast activities, use of printed and visual materials can prove enormously beneficial for all kinds of learners including children. Especially in establishing contacts with specific groups in remote hilly, wild, snow-covered and other inaccessible areas where the isolation in communication has to be broken at first, the potential of radio cannot be over-estimated. Besides, radio communication particularly in these areas would be the cheapeast means of establishing contacts on a continuing basis.

Although in Orissa the school broadcast programme is in

operation since 1960, it has not been well-accepted and adequately utilised by the schools. In most of the secondary and M.E. Schools, radio sets are not available and wherever they are available are not properly utilised. With a view to clarifying difficult concepts and reinforce the learning experiences acquired by radio programmes, pre, during and post broadcast activities are desirable. But in a very few schools, teachers take up this work in right earnest.

In order to popularise as well as to promote effective utilisation of the programmes, the Department of Educational Technology, SCERT consulted the media experts, educationists and the inspecting officers through conferences and meetings and issued specific instructions to the field for successful implementation of the project.

In the Consultative Panel for Educational Broadcasts held on the 10th January, 1980, it was decided to include radio lessons in the Internal Examinations of Training Schools and Colleges, so that teachers and students will be more sensitive to the programmes and be acquainted with the techniques of pre and post broadcast discussion and organisation of follow-up activities in the classrooms. With a view to facilitating this, it was suggested that the "idle funds" or any other funds not so far utilised by the schools would be diverted for purchase of radio sets.

Instructions were given to all traning schools and colleges that a separate period would be kept in the time-table keeping in view the timing of the school broadcast programmes. A log book should also be maintained regularly keeping notes on every day broadcast. The Heads and Inspectors of these training schools and colleges were also requested to pay personal attention to this programme and make specific mention in their inspection reports.

Now it may be decided how these instructions mentioned above can be implemented. As regards purchase of radio acts, maintenance of a log book and keeping a period free for listening to the school broadcast programmes. the training schools may not face any serious administrative difficulty.

But adequate planning for effective utilisation of the programme has to be made by the school.

The pupil-techers will be the teachers of M.E. and High schools. Unless they are trained in the techniques and methods of utilising the programme, they cannot do justice to their work in future. Hence they should be exposed to the school broadcast programmes as much as possible. They are to conduct pre and post broadcast activities and follow up programmes in their own institutions in the beginning. These lessons may be taken up as "Criticism" lessons.

Before that, teacher-educationists have to demonstrate some radio lessons also. Then the pupil-teachers may be asked to "practise" radio lessons in the practising schools particularly with emphasis on pre, during and post broadcast activities which have to be supervised by the teacher-educators. For that they may maintain individual log-books or lesson notes which may be checked by the supervisors. At least 5 such radio lesssons may be required of each pupil-teacher during his training period.

Since radio is merely an aural medium, it is to be supported with further discussion, elucidation, class-room activities, graphics, illustrations and follow-up activities. The teacher has to play effective role in utilising the educational radio programmes.

Television

Like radio, television is a potential medium and gradually occupying an important place in the field of education. But unlike radio, television is an expensive and mixed audio-visual medium. In a sense it is a multi-media equipment by which different kinds of means, media and materials can be utilised for producing and utilising its programmes. In the advanced countries it has remarkably influenced the life-styles and education of the people.

Fortunately in our country television has already assumed an important place in the field of education and entertainment. During the SITE, television favourably affected the developmental programmes and educational advancement

in the six States, especially in the backward areas of the country. Such experiences encouraged the planners and administrators to start terrestriat TV transmission as a SITE-Continuity programme.

In Orissa, Terrestial TV Transmission has started since April, 1978 and programmes for adults are being telecast during evening hours. Since the 4th August, 1980 educational television programmes are being broadcast mainly for primary school children in the Sambalpur area within 40 kilometres radius. Now more than one hundred and fifty television sets are working in various primary schools and educational television programmes are being telecast for the age-group 5+ to 12+.

This area of terrestrial transmission is likely to be expanded and new transmission centres may come up in the near future. The INSAT is expected to be in space and start transmission during 1982. This is going to explore rich possibility and open a new era in the field of educational broadcasting. Since the investment to be made on infra-structure, production of programmes, deployment of TV sets and other operational charges is a huge amount, the Education Department has to take all steps for maximum utilisation of the medium.

The present pupil teachers in training are the future teachers in service. Unless they are trained in handling the TV sets, in conducting pre and post telecast discussion and other follow-up activities, they cannot utilise the programmes effectively for the improvement of education. Our teacher educators should, therefore, take all preparatory measures for ensuring adequate utilisation of ETV programmes. The teacher educators in the Sambalpur district are now required to have the pioneering experiences in this field.(×)

(×) This paper was presented and discussed in the Conference of the Heads of the Secondary Training Schools, organised by the SCERT, Orissa on the 26th and 27th November, 1980.

14

RADIO AS A COMPONENT OF EDUCATIONAL TECHNOLOGY

Meaning and Scope of Educational Technology

Educational Technology consists of all materials, media and methods which are used for optimisation of learning. It comprises teaching aids like chalk sticks, books, journals, illustrations, charts, posters etc. as materials, radio, television, films etc., as media and microteaching, programmed learsing, team teachning etc., as modern methods. It is essentially intended to help improving the quality of education and widening access to education through utilisation of the mass media of communication and various audio-visual aids to instruction. Education involves the transfer of knowledge, information, skills, attitudes and interests and this transmission of messages becomes effective as well as efficient through the different media, materials and methods which constitute Educational Technology.

Educational Technology Project is being implemented in different states of our country since 1973 in order to make the universalisation of elementary education a success, to reduce wastage and stagnation and improve the quality of education at all stages. Formal education, nonformal education, teacher education and adult education come under its purview and attempts are being made for production and intensive use of radio, TV, printed materials, graphics, films, slides, film strips etc., under this project.

Radio as a Component of E.T.

Radio has been found to be a potential as well as inexpensive medium. It is utilised for supplementing and enriching the teachers, activities. It also helps in making the educational programmes interesting and meaningful. It is wrong to say that radio replaces the teacher. Rather it strengthens the position of teachers in the modern educational system. Radio now embraces not only high schools under its ambit, but also primary schools, colleges, adult education centres and teacher training institutions.

In this context, the role of educational broadcasting may be enunciated in the lines of Draft Guidelines developed at the National Workshop held at New Delhi under the joint collaboration of the Ministry of Education and UNESCO. Educational Broadcasting can be used :-

(a) as a means of motivation
(b) as a major component of nonformal education system
(c) as a direct instructional medium
(d) as an enrichment of the formal education system
(e) as a training component for teachers and supervisors
(f) as a means of imparting vocational and professional skills.

Thus educational broadcasting should move away from syllabus-oriented approaches, provide enrichment programmes and aim at reducing work-load in the class room. On the whole, radio programmes should be used both for quantitative and qualitative improvement of education.

Attempts for Effective Utilisation

(i) *Effective Dialogue* between the Production and Consumption Sectors is essential for ensuring successful planning, utilisation and evaluation of radio programmes. Although the school broadcast programme was in operation since 1960, it was not well-accepted and adequately utilised by the schools of Orissa. After establishment of the Educational Technology Cell in 1974, close relationship was developed

between the AIR., Cuttack and the Education Department for Planning the programmes.

Meetings and conferences were organised by the Educational Technology Cell at various places of the state to bring about adequate awareness for the use of educational radio. Circulars on the basis of decisions taken therein were issued to the inspecting officers for provision of radio sets, proper utilisation and supply of feedback.

(ii) *Studies were Conducted* in order to evaluate the school programmes and identify the problems faced by the schools for effective utilisation. A number of studies brought to light some dificiencies and shortcomings in the existing system and follow-up steps were taken to eradicate these hurdles. The findings have also helped the producers to produce suitable programmes.

(iii) *Internal Examination* of training institutions included some radio programmes, so that teacher-educators and trainees would be made sensitive to the programmes and be acquainted with the techniques of pre and post broadcast discussion and organisation of follow-up activities in the classrooms.

(iv) *Support Materials* are felt essential for effective utilisation of educational broadcasts because radio is an aural medium only. Educational broadcasts, therefore, need be supported with further discussion, elucidation, classroom activity, graphics, illustrations and so on. Teachers' notes were prepared and circulated among schools for helping teachers in these activities. During the year 1980-81 three posters on the basis of some selected school programmes were produced and utilised in order to illustrate the contents and motivate the teachers and students for using the educational broadcasting. In the year 1981-82 a few radio-vision programmes were produced with the help of a series of relevant slides.

(v) *Scriptwriters Workshops* were organised for the first time in our state during the year 1980-81 in order to train prospective writers and teachers in preparing suitable script for

educational programmes. One was organised at Bhubaneswar and another at Jaipur in collaboration with AIR authorities. We received many valuable working papers from the distinguished media experts and educationists in and outside the state for discussion in the workshops. The Station Directors, Asst. Station Directors, Producers, Research Officers of both the All India Radio Stations addressed the participants. Besides theoretical knowledge, practical skills were developed for preparing suitable scripts and producing programmes. Studio facilities and technical know-how were provided by these stations and some programmes produced during these workshops were found quite successful.

It is hoped that through active collaboration of the Departments of Education and Information and Broadcasting, media experts, authors and educationists, programmes can be made more useful and interesting, relevant and meaningful, supplementary and enrichment for teachers and students as well. Further, effective utilisation will ensure improvement of quality as well as expansion of education at all levels.

(Talk given at the Seminar-cum-Workshop on Educational Broadcasts organised by the Directorate general, All India Radio New Delhi from August 17 to 27, 1981 at Cuttack).

15

EVALUATION OF EDUCATIONAL TELEVISION PROGRAMMES

Any educational programme aims at changes in the human behaviour. It is designed to produce specific changes in the behaviour of the individuals who are exposed to such a programme. The basic purpose of evaluation is to produce information that can be used in educational decision-making. Thus evaluation provides data to frame appropriate policies for an educational media system. It also increases knowledge of how to integrate media most effectively into an overall teaching context. It not only provides information on the success or failure of educational objectives, but also gives explanations for the same. On the whole, findings of evaluation throw light on the effectiveness of planning and management elements for best utilisation of media. In fine, decision-making is the general objective of evaluation.

Formative and Summative Evaluation

Evaluation is divided mainly into two kinds : (i) Formative and (ii) Summative. The former is conducted in connection with new educational programmes and the latter is used to assess the effectiveness of the existing programmes.

Formative evaluation attempts at collection of data on the student's learning needs, his readiness for learning and problems he faces in the learning situations. It helps teachers and pupils to bring about desired modifications in the teaching and learning programmes. On the other hand,

Summative evaluation is required to assess how far the existing programme has been effective in the teaching-learning situations. It is conducted at the end of a course or a programme for certification or validation.

During the development of a programme/project, data are also collected for making revisions in order to improve its functioning and effectiveness. Formative evaluation is necessary to diagnose the problem and indicate the corrective steps warranted under the circumstances. The results of formative studies are useful in designing other programmes of similar nature and planning media policy. Teachers' notes and students' work books are also revised on the basis of findings of such studies.

Tony Bates (1978) has described various kinds of formative evaluation as follows:

(1) *Filoting* It consists of showing a programme to experts, subject matter specialists and curriculum specialists. Expert opinion is thus obtained for making the programme more effective and meaningful.

(2) *Pretesting or developmental testing* The programme or material either in rough draft or in finished format is shown to representatives of the target audience. Responses so collected are helpful in making suitable modifications in the programme/material.

Audience reaction is also obtained by the following ways:

(i) Observing and noting the audience behaviour (e.g.) participation, etc.,) on a work-sheet.

(ii) discussing with the audience individually or in groups about the programme.

(iii) administering a questionnaire/opinionnaire regarding various aspects of the programme.

(iv) recalling the programme over a period of time

(v) testing the change in behaviour of the audience.

Due to certain constraints, major changes in the programme may not be possible, but developmental testing might

be useful for the preparation of appropriate support materials. Decision to use formative research should be made from the very beginning and producers as well as researchers be involved in such decisions.

Summative evaluation mainly differs from formative one in time perspective and both kinds of evaluation overlap each other in many ways Summative evaluation, however, is primarily concerned with assessment of the finished product. The techniques and methods of study in formative evaluation are also followed in Summative ones. The need for immediate information to guide short-range decisions justifies formative evaluation, whereas the needs of long-range decisions and for policy-making require Summative evaluation of the impact of programmes/projects/materials. Due to its long-term effects and importance, data in Summative evaluation are gathered in a more systematic and scientific manner.

When a programme/project is of repetitive value and formative evaluation has not been possible at the initial stage, summative evaluation is more justified to be conducted for bringing about necessary revision in the programme/project. Nevertheless, it is wise as well as economical to undertake formative evaluation and improve upon the programme/project in the process of its production on the basis of its findings.

Wilbur Schramm (1972) has similarly enunciated the following feedback methods which may be taken as formative as well as Summative evaluation.

(1) **Pretesting programmes:** Prior to the transmission of educational television programmes to the entire school system, they are shown to a representative sample of target audience. This tryout is felt necessary as a teleteacher cannot be confident of the allout success of the programme unless it is pretested on students. But producers and teleteachers do not accept such tryout because of limited time and resources.

(2) **Teaching pupils in the Studio** : By teaching a group of

students in the studio itself, the teleteacher can get as much information from the pupils as he would get in a normal classroom situation. This feedback helps him to modify or improve upon his lesson-plan. Studio-classes may be off-camera or on camera according to convenience and help teleteachers particularly in conducting experiments or demonstrations.

(3) **Immediate electronic feedback from classroom:** It is a kind of "talk-back" system installed for enabling pupils to raise a point or ask a question through a classroom microphone. These comments and questions would go on the air and furnish some feedback to the teleteacher.

(4) **Testing at frequent intervals on learning of programme content** : All classes are administered tests at the same time on programme content using television and results of the tests are also made known through television. These results help reviewing the subject matter or to introduce new approaches to teaching.

(5) **Obtaining regular comments from classroom:** Class-teachers are requested to fill up a report proforma and send to teleteacher/producer once in a week or fortnight. Such feedback is generally received on various aspects of television programme including content design and presentation style.

(6) **Making regular observations of classroom activity:** Supervisors/Education Officers are required to observe classroom situations regularly and collect information in respect of teachers' and students' reactions to TV teaching. Teleteachers themselves can also observe classes during televsion lessons and get feedback.

(7) **Getting regular reports on attitudes of pupils and teachers :** By adopting the above methods or by administering attitude scales feedback is obtained as to whether they like television lessons, what they like or dislike in it, whether teachers are receptive or aggressive about it and so on.

(8) **Getting reports on specific problems :** With a view to getting feedback on certain problems, both questionnaire

and interview techniques are required and the supervisor entrusted with responsibility of looking into the problems get suggestions for solving them from these reports.

(9) **Expert reviews of pregrammes/materials** : At the time of decision-making for revising the programme/materials, specialists consisting of producers, teleteachers, supervisors, teachers subject and media experts are required to give their views.

As every programme usually has a scope for improvement, various methods of feedback have to be adopted. But there are constraints of time and resources in the matter and as such, some selected methods most suitable and economical, have to be put into operation according to the local needs and conditions. Thus evaluation, both formative and summative can be applied, action-oriented, decision-directed, short-term, programme specific and project-based.

Evaluation of ETV programmes needs collaborative and inter-disciplinary approach and sympathetic understanding of the processes involved in the system. It has also been rightly said by Rahman (1977). "We might add that educational television opens up a new area for research for which our existing tools and techniques are not adequate. It will be necessary to develop appropriate concepts, techniques and methodology that would be sensitive to the child audience and provide insight into the complex manner in which he gains from or accepts television". It is imperative that a set of very refined and delicate tools and techniques as well as a sympathetic heart and a sensitive mind of researchers are badly necessary for evaluating the educational television programmes.

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16

HIGHLIGHTS OF A FEW STUDIES IN ETV PROGRMMES UNDER SITE

An Innovation of International Importance

The Satellite Instructional Television Experiment (SITE) was a year-long communication project which commenced from August 1, 1975 and ended on July 31, 1976. The India/USA Project evisaged the use of a communication satellite (ATS-6) for direct broadcast of instructional television programmes to rural community receivers. The Memorandum of Understanding signed as long back as in 1969 between USA and India specifically referred to programming in relation to agriculture, family planning and national integration as primary objectives and suggested secondary objectives which would include contribution to schooling and adult education, to teacher training and the improvement of occupational skills, health and hygiene.

Under SITE, ITV programmes were transmitted to 2400 villages in six states of India-Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Orissa and Rajasthan. By means of the satellite it became possible to take television to the remote villages poorly served by modern media of communication. Programmes for four hours were transmitted daily both in the morning and evening during the Experiment year. The morning transmissions were educational in character intended for school children, whereas the evening transmissions were for general education, information and entertainment of other sectors of the audience. The morning programmes were transmitted daily except on Sundays and holidays for 22½ minutes.

Television Base Production Units of All India Radio were mainly responsible for the production of the morning programmes. On all Mondays and Thursdays Science Programmes produced by the Space Applications Centre of the Indian Space Research Organisation were broadcast as SAC-SITE programme. Indian Space Research Organisation was responsible for providing hardware facilities required for the project including deployment and maintenance of TV sets in the villages. Each SITE State government was responsible for electrifying the buildings which housed TV sets, paying electricity bills and remunerations to custodians for operating and safeguarding sets.

Evaluation of ETV under SITE

With a view to making SITE really useful as well as effective for the development of communication and utilising its tremendous potentialities, both formative and summative studies were designed from the very beginning. N. Bhaskar Rao (1974) had made it very clear even before the implementation of the project, "The SITE programmes should be an action-research effort involving immediate development of target group profiles, deciding what sort of messages in what combination and context are to be delivered and then actually producing these programmes. Television hardware capable of diffusing all over the country by itself does not ensure a television service. Unless enough priority and planned attention is given to producing target audience-oriented educational/motivational/informational software from now onwards, the whole satellite experiment would be irrelevant. Feasibility and problems involved in producing such programmes need to be explored and studied. Finally, audience research and evaluation of the programmes is an integral part of any broadcasting system. To avoid costly mistakes research and evaluation should be given high priority alongwith hard and software development."

In accordance with a clause in the Memorandum of Understanding, social scientists were appointed by the India Space Agency to conduct evaluative studies. Bella Mody(1978)

has laid down the social evaluation plan with the following phases:

Phase one (Pre-SITE) Context evaluation, Audience profiles, Needs assessments.

Phase two (Pre-SITE) Input evaluation, Pretesting of prototype programmes.

Phase three (During SITE) Progress evaluation, Programme feedback from audience, In-depth studies on specific programmes.

Phase four (Pre-during and Post-SITE) Global evaluation, Sample survey of adults, Experimental studies of children etc.

Some major findings

According to Bella Mody (1978) the important findings of social evaluation studies are the following:

(1) The first month's average evening audience of 300 settled down to about 100 per cent and the audience was composed of about 30 per cent children, 50 per cent adult males and 20 per cent adult females.

(2) Socio-economic status was found to be inversely related to TV viewing as the small farmers and landless labourers formed the greater part of audience.

(3) Twice as many men as women reported viewing as there was the clash of viewing times with cooking times and the general irrelevance of programmes to their areas of interest.

(4) TV viewing did not displace or increase the use of other media, but it did not increase contact with the village-level extension agent.

(5) There were statistically significant gains in knowledge of preventive health measures.

(6) There was increase in the proportion of respondents favourable to the ideas of small family.

(7) There was a large gain in knowledge of improved varieties of animal breeds, but there was no gain in general

agricultural knowledge partly due to variety of farming techniques in different regions.

(8) There was significant gain in knowledge of political events in both TV and non-TV villages.

(9) The magnitude of the gain was greater for lower castes, for illiterates, for females, for low-income groups and for those who reported regular TV viewing.

(10) Children exposed to TV in the classroom showed significant increase in their language development.

(11) The presence of TV in the school had no impact on enrolments and attendance, because of poor economic condition and need for children to help their parents in the household/farming activities.

(12) TV school teachers were excited about TV as a classroom aid, but they found "enrichment" programme unrelated to their syllabus.

According to a study of ETV programmes (Mohanty, 1976) the major findings are as follows:

(1) There were deviations of ETV programmes from the date schedules as a result of which there was difficulty in organising pre and post telecast discussion in the class room.

(2) There was lack of synchronisation and overlapping of Hindi and Oriya tracts in SAC (ISRO) produced science programmes.

(3) Programmes made on familiar topics and from the immediate environment seemed to be more interesting and appealing to children.

(4) Programmes giving too many details were found to be uninteresting and ineffective.

(5) Language difficulty, inadequate pause and quick speed were felt as barriers in understanding some programmes.

(6) Some programmes giving recitation of comparatively long poems were found to be taxing and strenuous for the

small children. On the other hand, group singing was found to be more effective.

(7) Programmes dubbed from documentaries meant for adults did not seem to have appreciation from young audience.

(8) In some science programmes various steps, different kinds of elements and equipment used could not be made clear, as a result of which children failed to understand the content.

(9) It is experienced that more the participation of active and happy children, more effective and better the programme.

Another study of science programmes produced by the Centre for Educational Technology, NCERT, New Delhi and telecast during the In-service Training Course for Teachers in Science reported the following findings of pedagogical nature (Mohanty, Giri and Mohanty, 1976).

(1) Dubbing of ETV programmes into regional language was not appreciated as there was overlapping of languages or lack of synchronisation.

(2) In some programmes the teleteacher was required to cover so many topics e.g., Centre of Gravity, Heat and Temperature which was too much for one lesson.

(3) It was difficult on the part of primary school teachers to follow some programmes as their topics were not in the syllabus.

(4) Most of the programmes need to be of problem-solving nature.

(5) Students' participation in most of the ETV programmes was not up to the mark.

(6) Most of the experiments were not conducted in demonstration and discussion method.

(7) The achievement tests used in some TV lessons were not suitable.

A pioneering study of ETV programmes was conducted by the Ministry of Education, Government of India in collaboration with the Educational Technology Cell, Orissa

and Doordarshan Kendra, Cuttack. It was a summative study taking a larger sample representative of all the three clusters of the state of Orissa.

The most significant findings of this study as reported by Saulat Rahman (1977) are as follows:

(1) There was high liking for the programmes among both children and teachers.

(2) There was variation in the level of liking among children and teachers.

(3) A few children and teachers were undecided about their opinion and gave no response.

(4) By and large there was similarity in children's and teachers' assessment of programmes.

(5) The most important factors governing favourable assessment are familiarity of subject matter and its satisfactory treatment.

(6) There was close connection between liking and comprehension.

(7) Comprehension was found to be partial among both children and teachers.

(8) Fragmentary information relying on spoken word was not found to be perceived.

(9) Dialogue was not found to be a successful method of purveying information particularly in a dubbed version of programme.

(10) High comprehension is closely related to visually effective and conceptually well-structured communication.

(11) A visual by itself is not adequate for purposes of communication—it has to be carefully used.

(12) A good script based on the careful structuring of ideas is essential for good television programmes.

This study has established the considerable success of the educational television programmes taken up for investigations and more importantly, the acceptance of television as an educational force in our rural primary schools. It is also

recommended that there should be adequate arrangements for planning, production and use of ETV programmes and an infrastructure should be created for collaboration of producers, educationists, teachers, planners and others on a continuing basis. Since this study has revealed the great potential of TV for communicating directly to children, attempts should be made to stimulate their interests and curiosity and motivate them to learn from ETV by providing suitable support materials. It is only by making research a continuous and systematic part of television process that we can move towards a deeper understanding of the multifarious problems to which answers are necessary. It is also felt that appropriate concepts, strategies and methodology that would be sensitive to the young audience have to be developed, as our existing tools and techniques of evaluation are found to be inadequate. Lastly, it may be concluded by quoting the closing sentences of this study report, "Television is too great a medium to be allowed to remain as an aid in the hands of an indifferent teaching community and arid educational system. Our search must be for the means whereby the potential of television can be realised."

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17

SITE: THE GRAND EXPERIMENT IN EDUCATION

The General Background

"If the ten to thirty per cent of the world's population living in remote, isolated areas are not to be sacrificed, deprived of their right to an education and allowed to act as a brake on progress in every developing country, then only educational telecommunication Satellites can provide the solution."

This emphatic assertion was made by Mr Jacques Torfs, a UNESCO expert, in his address to the conference on educational Satellites organised at Nice by the French National Centre for Space Studies in 1971. It was not a utopian idea, but a scientific reality. Less than two years before this conference on September 18, 1969, a memorandum of understanding was signed between India and the USA to conduct an epoch making experiment called "Satellite Instructional Television Experiment" (SITE) by using the Applications Technology Satellite-F which was yet to be born.

On May 30, 1974, the Satellite (ATS-F) was successfully launched from Cape Canaveral and located over the United States of America for making various experiments. It weighed 3,100 lbs and was orbiting the earth at the height of 22,300 miles (36,000 km approximately). The movement of the satellite was so matched with the earth's movement that, for all practical purposes, it remained stationary at any one given point over the orbit. Through series of complicated manoeuvres it was shifted to equator and from equator to lake

Victoria in Kenya, Africa, for focusing its power towards India. The telecast via this satellite began in India from 1st August, 1975, a red-letter day in the history of Educational Technology.

The experiment continued for a year from August 1975 to July 1976. The instructional objectives of SITE were in the fields of Education, Agriculture, Health and Family Planning, National Integration and so on. Television broadcasts via satellite were made for four hours a day and out of these four hours, one and a half hour would be in the morning and two and half hours in the evening. The morning time was utilised for broadcasting programmes for children and the evening hours devoted to broadcasting programmes for adults. This total time available was equally divided into three segments for six states of India and in doing so the capacity of satellite for telecasting one video with two audio channels was fully exploited.

SITE was designed as a communication experiment which would provide vital inputs in planning and executing a nation-wide television system. With this in view, about 2,400 direct reception television sets deployed for SITE were located in different cultural, linguistic and agricultural regions of the country. Different socio-economic environments were also chosen for the purpose. The television programmes would be oriented to local needs for providing effective support to developmental endeavours.

The Educational Objectives through SITE

Since the SITE was basically directed to the rural audience the television programme was an unprecedented phenomenon for the villagers so far not exposed to such experiences. The major objective of the SITE programmes was to help people in their developmental endeavours. As children's morning programme formed an important component of the SITE, educational advancement was emphasised more than anything else. It was expected that the educational television programmes would bring about improvement both in quality

and quantity of education. The following outcomes were envisaged through this:

1. There would be more enrolment, more regular attendance and less dropouts as the children would feel attracted to the school through this programme.
2. Children would develop receptivity to the new ideas and activities as they get exposed to various external stimuli of the immediate and distant environment.
3. They would form good health habits as a result of understanding the merits of such habits through practical demonstration.
4. They would develop proper attitudes, interests and values that were conducive to social harmony and democratic growth.
5. Children would realise the factors in pollution of air, water and noise and could help maintain environmental sanitation.
6. They would develop interest for living objects and be conscious of the need for conservation of wild life and forests.
7. Children would develop scientific attitude as a result of observing natural phenomena, doing experiments themselves, skilful questioning and analysing facts and figures.
8. They would develop awareness about different community development programmes, so that their participation in them would be promoted.
9. Children's interest and awareness in proper utilisation of natural resources would be increased as a result of their understanding.
10. They would develop skills and ability of free discussion in and proper organisation of various meetings, seminars and conferences.
11. They would have better achievements in school subjects like Mother-tongue, Mathematics, Social Studies, General Sciences and Crafts.

12. They would be able to participate in group activities in the line of their preception and experiences.
13. They would develop the ability of coordination between the visual and auditory reception.
14. Children would develop their feelings of national and international understandings.
15. The rural community would get interested in the programmes and practices of schools.

The Nature or Form of Educational Inputs

The educational television programmes were mainly intended for the children of age group 5 to 12 years. But they were so designed as the children under and above that age-group could enjoy and benefit from them. Hence these programmes were not merely for classroom teaching. They were rather enrichment and supplementary materials for children. An important objective of these programmes was to involve children in group activities and discussion. Therefore an informal and congenial atmosphere should be created and maintained in the classrooms so that all children irrespective of their age, sex, ability and interests would feel motivated to participate and show initiative. The role of the teacher in this situation was to introduce, guide and direct children's participation and activities.

Several programmes were tagged together for each day's children's programme which was of twenty-two and half minutes duration. Thus every day's integrated programme was called capsule consisting of two or three components on entertainment, scientific exploration, visits to places of historical and geographical importance, learning through doing and so on. Each capsule was designed as a magazine with variety of materials.

The Means of Utilisation

Children were not to be left to themselves alone only for viewing these programmes. The teacher had to introduce these programmes some minutes earlier to the telecast and

meet their queries or himself ask some questions to test their understanding and receptivity. Thus there must be some pre-telecast and post-telecast activities to be performed by the user-teacher with each programme. The teacher should himseslf view the programmes attentively so that he would be able to bring out and emphasise the important points and features of each programme. All attempts were made to impress the programmes in the young minds in an interesting and effective manner.

The User-Teacher—Pivot of the Programmes

The responsibility of user-teachers was more challenging and strenuous due to the fact that a large number of children would gather in the television room and they were of heterogeneous age-group with individual differences in their physical, emotional, mental, language and conceptual development. The socio-economic backgrounds of the children would be different and their interests and attitudes would be varying. The accommodation in most of the schools might be inadequate and the seating arrangement as desired might be difficult. But in spite of all these limitations the teacher should maintain an atmosphere congenial as well as stimulating to learning and activities.

Thus the user-teacher would be the pivot of the entire project. Success of the experiment would largely depend on the efforts, imagination, resourcefulness, sympathy and understanding of the teacher. The teacher should have firm faith in the programme, which might be accepted as an aid to his teaching rather than himself as an aid to the programme. The SITE programme aimed at accelerating educational development in the villages which were deprived and backward in many respects. Crores of rupees were being spent on the project and hundreds of workers, experts, administrators, technicians, educationists and scientists were involved in preparation, production and utilisation of the programmes. But the teacher was at a crucial position to adequately utilise the outcome of such efforts in the service of the young children living in rural areas.

In aid of the Teacher

The teacher was, however, not left alone in his challenging task. He was to be given assistance from several quarters. Ten orientation training camps for user-teachers were being organised at different places in each state on the 4th and 5th August, 1975, for enabling them to properly handle the television sets and to effectively conduct pre-telecast and post-telecast activities with children. The teachers were provided with guidance notes or support materials which suggested them various activities to be done on each programme. They read them carefully prior to the daily telecasts and made necessary preparation accordingly.

SITE was going to provide opportunities not only for the pupils but also for teachers to learn new knowledge and skills through day-to-day educational television programmes. But some specific in-service training courses were proposed to be organised in various subjects during vacations. Initially an attempt was made to impart training in science to primary school teachers in service during Puja vacation for 12 days. Since science had been introduced in primary schools and most of the teachers at that stage were deficient in the subject, this in-service training was designed for the purpose. Such seminars were held in each Television Centre where 10 teachers from surrounding villages assembled to receive lessons in science. These seminars were conducted by science teachers from local high schools and secondary training schools. They were called teacher-monitors. During this 12-day seminar, there would be programmes on television, radio, activities detailed and nondetailed, enrichment and resource materials, tutorials and so on. That is why this training was called "multimedia package." This was an exciting as well as stupendous programme and its result was immensely useful. On the basis of the experience, the multi-media package was modified and another in-service training in science was conducted for 15 days for teachers of elementary schools in 1976.

The Grand Experiment

In this grand Satellite Instructional Television Experiment, several agencies as well as organisations, international, national and provincial like UNIDP, NASA, ISRO, AIR, CET and NCERT etc., were closely involved and a large number of persons, technical and non-technical, academic and administrative took their due share. Therefore success of this gigantic experiment would depend on each one of these personnel committed to it. The entire world had an eye over this experiment and its success would immensely influence the educational, scientific and technological development of the humanity. Especially SITE would be a landmark in the field of educational technology. India availed herself of this rare opportunity to solve many problems in communication technology and tried her best to make the SITE programme really a success.

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RADIO-VISION AS AN INNOVATION IN EDUCATIONAL BROADCASTS

Need for Radio Vision

Radio is an aural medium. As a sound broadcast, radio programme has its own limitations. Some people have aversion to listening only. They dislike to hear only words, words and words. Again what is heard is fleeting and changing from moment to moment. That is why radio programme is called evanescent in nature and taxing to its audience.

In view of these handicaps, attempts are being made to provide support to the spoken words. Illustrations are used to explain, to create interest, to motivate and to help concentration. That is, vision is supplementing audio or radio. This is done in many ways by showing pictures or flash cards or by projecting slides or film-strips even by organising activities. Frances Berrigan and Anne Gibson have rightly observed, "At the simplest level, having a visual support does seem to help concentration. It is easy enough for the mind to wander during a twenty minute radio talk or discussion. To support what is said by an illustration or an activity helps to concretise the subject matter."[1]

Research has revealed that students prefer radio-vision to radio alone and this justifies more of it in the advanced countries of the world.[2] Radio-vision has been more popular day by day and the latest trend is towards more audio-vision in the field of educational broadcasting.

Radio-vision is an alternative medium, an improved innovation of radio. In this, as the term implies, "radio"

is supported or combined with 'vision'. Sound is made available by radio and vision by visuals or illustrations. The visuals are provided through slide projectors, filmstrips, posters, models, charts and so on. As commentary is given to the silent films or filmstrips, visuals are given to the radio programmes. Sometimes radio programmes recorded on tapes are played back by recorders while vision is supplied through projection of filmstrips, slides etc., or presentation of models, charts and illustrations related to the programmes. This is called audio-vision.

With a view to making comprehension effective and perception clear, radio-vision as well as audio-vision besides their audio and visual components, provide for teachers' notes and students' .workbooks. Besides, in case of audio-vision, pace of audio and visual components can be easily synchronised and harmonised with that of individual children's comprehension. But in case of ETV programmes, both audio and visual components go on and on without considering the pace of learners' comprehension as there is quick succession of both sound and vision beyond the control of the user. That is why audio-vision is found psychologically congenial and pedagogically sound catering to the individual needs of the learners ranging from slow-learners to geniuses.

Experiences in Radio-Vision here and there

The British Open University is a remarkable achievement in educational technology and is using various kinds of media for providing its students with rich learning experiences. It has developed multi-media packages for various units in all subjects—arts, sciences, technologies and humanities. Particularly, its attempts to support radio-programmes with print materials, posters, coloured post cards, slides, filmstrips and realia are quite laudable and enlightening.

In 1976, the Audio-visual Media Research Group was asked to evaluate several programmes with special emphasis on a radio-vision programme. But it was found that there was a wide range of materials being used for radio-vision programming. At that time there was no record of the

number of courses or programmes using radio-vision and no way of measuring the cost of this medium to the OU. It was therefore decided to carry out a study to discover the range, extent and cost of radio-vision in the University. According to the study,[3] radio-vision describes the simultaneous use of radio and vision.

The extent of radio-vision showed that Mathematics made most use of the medium. The second most extensive use is in Science. The range of materials used for radio-vision includes diagrams or tables in broadcast notes, charts, maps, samples or specimens, filmstrips and transparencies. Radio-vision materials in the Arts Faculty consist of coloured or black and white photographs, coloured post cards, drawings and plans etc. It is interesting to know that 62 per cent of all Open University courses in 1977 were making use of radio-vision. But 23.33 per cent i.e., a quarter of all radio programmes make use of the technique in some way or other. Thus the innovation has made a headway in the visual area and has shown a significant development in the educational broadcast.

The experience in use of radio-vision at OU shows that much more effort has been devoted to the provision of elaborate visual support material for radio-vision than to the design of the sound component. The study[4] has rightly pointed out: "Many radio-vision programmes overload students, requiring sustained concentration as well as expecting a great deal of pre-broadcast preparation to assemble materials. Often, programmes seemed to race through the materials, allowing insufficient time for the detail to be located, or observed." Besides, many radio-vision programmes designed with a predetermined work pace, when are broadcast, can make no allowance for individual learning styles and varying speeds of comprehension. This is, of course, due to the very inherent limitation of the sound broadcasting. Once the listener fails to locate a reference, he is likely to lose concentration and to miss valuable information.

Besides England, radio-vision has also been popular in other advanced as well as adancing countries of the world.

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Besides England, radio-vision has also been popular in other advanced as well as adancing countries of the world.

During 1976-77 the Denmark Radio produced about 50 radio-vision programmmes for schools. The Sweden Radio similarly produced about 60 radio-vision programmes in 1976. The Schools Broadcasting Division of the Ministry of Eduction, Kenya has started utilising radio-vision programmes for science broadcasts in collaboration with the Centre for Educational Development Overseas, London.

During the Satellite Instructional TV Experiment (SITE) period an in-service training course in Science was organised by the Centre for Educational Technology, NCERT in collaboration with the Educational Technology Cells of Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Orissa and Rajasthan for the teachers of elementary schools. A multi-Media Package was developed by the CET for this course which included radio-vision programmes in its sound broadcast component. Explaining these radio-vision programmes to the teacher-monitors who were to conduct the course, it was mentioned by the CET,[5] "Radio-vision means a radio programme accompanied by visuals which may be on flash cards as in the case (Shadows) or as posters as in the case of next programme "Vikas aur Vigyan" or on slides/filmstrips. A topic like "Shadows" needs visuals. In the materials sent to you, we have included Sketches/ diagrams as eleven cards numbered serially. You should display these cards one by one; the programme will cue you for such display by announcing look at card No. so and so Please ensure that the participants are made to sit in such a manner, at such a distance that wherever these sketches are, they could easily see them while listening to the radio feature. The teacher monitor here has to be alert to change the sketch when next sketch is referred to." It was found that with the help of these suitable graphics accompanied by commentaries from radio, the principles of shadows in various situations were well-explained to the trainees. Similarly, few posters used in the other radio programme "Development and Science in Villages" helped to clarify certain difficult concepts and made the radio teaching interesting and meaningful.

The question "In the age of TV, has pedagogical Radio

a future." stimulated the Department of Education, South Gujarat University, Surat to take up a research project "Radio-Vision as a Partial Substitute to Educational TV." The experience of SITE programme provided further impetus for the venture. Although TV is considered to be a better medium of communication for the rural masses, the question arises, "Are we in a position to provide TV to all the inhabitations of our ocuntry?" Secondly, "Have we been able to exploit fully the potential of Radio as an educational medium?" Loud thinking over these questions further stimulated to examine the "effectiveness of Radio-Vision as a medium of instruction." The major aim of the project is to study the efficacy of radio-vision as a medium of instructions.[6] The findings of this study are quite encouraging.

Radio-Vision has not only been well-accepted abroad, but has also been appreciated by the media experts in our country for the future development of broadcasting. The Verghese Committee[7] has *inter alia* emphasised the raising of educational standards by supporting programmes of formal, non-formal and continuing education and recommended that radio and television extension must be sponsored by other media including print and graphics. The Working Group has also viewed these two media as an integral part of multi-media system that includes the use of radio-vision, cassette tape-recorders, films, video tapes etc. Hence radio-vision as an innovation of immense potentialities has a bright future in educational broadcasting.

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EVALUATION OF EDUCATIONAL RADIO PROGRAMMES

Objectives of Media Ev aluation

Evaluation of educational radio is felt essential for providing adequate data and feedback in order to bring about improvement in the quality of programmes ensuring better utilisation. The successful development of educational broadcasting largely depends on the constant monitoring and continuous evaluation. According to the APEID (Asian Programme of Educational Innovation for Development) Technical Working Group meeting on Educational broadcast ing held at Kuala Lumpur, Malaysia on 19 November—1 December, 1979 there are generally two sets of objectives: (i) short-term and (ii) long-term. A few of the short-term objectives are:

(i) adjustment of programme-content
(ii) adjustment of production techniques
(iii) providing more appropriate teachers' notes
(iv) correction of teaching methods
(v) monitoring of equipment performance.

Some of the long-term objectives are:

(i) programme planning to integrate with curriculum change and development
(ii) allocation of priorities for the planning of programmes to meet the specific schools and/or community needs.
(iii) planning for the introduction or expansion of studio and transmission facilities, such as professional and

technical staffing, building, engineering and transmitting needs.

(iv) planning for effective pre-service and in-service programmes of teacher education.

These areas of objectives are quite suggestive and general in nature. The Working Group, however, concentrated its attention on (i) definition of the target audience and its needs, (ii) planning of programmes, (iii) relevance of the broadcasts to the school curriculum, (iv) appropriateness of programme content and presentation to the ages and achievement levels of the pupils, (v) suitability of the script and the quality of production, and (vi) the programme's contribution to the learning process.

Variety in Evaluation Methods

A good number of studies have been conducted in various parts of the world on communication media particularly radio and it is found that no single assessment mechanism in any of these areas can serve as a model for unqualified application. The various evaluation techniques adopted so far, although have achieved reasonable validity and made available ample evidences in relation to programme planning, production and utilisation, need to be improved upon for meeting the emerging requirements and situations.

Media evaluation is still in its infancy and adequate priority has not yet been given to it by most of the countries. With a view to making educational broadcasting a learning system, evaluation has to be given its proper place and for that the following methods and techniques of evaluation need to be adopted:

(1) general questionnaires to assess programme usage practices;

(2) specific questionnaires to study particular problems and objectives;

(3) interview schedules for administrators, community leaders, parents, teachers and pupils;

(4) school visiting by involved personnel to provide opportunity for on-the-spot observation; and

(5) seminars to discuss some important problems and crucial issues.

BBC Models of Evaluation

In this context, it is worth-mentioning that the BBC has developed various methods and procedures for evaluating its educational programmes.[2] Its practices for collecting data and evidences would provide some useful models and insight for the purpose in other countries. The BBC as well as the School Broadcasting Council look for these evidences about the suitability of broadcasts and the ways and extent of their uses for policy-making and production decisions. The Council's Research Unit conducted annual surveys in the UK at the primary and secondary stages to establish the sizes of audiences for series, number of schools benefiting from the radio programmes and the extent to which the medium is used.

Besides the annual surveys providing quantitative information, special surveys are made by Research Unit each year to collect qualitative evidences about the use of particular series as well as quantitative information. For this detailed questionnaries are sent to samples of schools for the teachers using programmes and heads of these schools are sent brief questionnaires for reporting. Such surveys are increasingly made to study the curriculum trends. Education Officers also conduct special studies in curriculum, often in collaboration with the Research Unit. The reports of these studies and surveys are presented to the Programme Committees.

The Education Officers of the School Broadcasting Council usually pay visits to the schools for evaluating radio programmes. They listen to the programmes with teachers and pupils. Their reports based on their observation and discussion with them give vivid pictures of the teaching situations and programme utilisation. They also describe the contributions made by support materials accompanied with the programmes and note the views of the teachers on

the individual and series of programme. These evaluative studies in depth cannot cover all series and programmes. Such evaluation is usually suggested by the Council's senior Education Officer with reference to particular series on which assessment is felt necessary. For exanmple, new approaches and techniques, "series breaking fresh ground in broadcasting" and "series under current policy review for report to the Programme Committees."

Prior to production of a new series or as a part of an investigation of a curricular area/subject or when existing series are under review, meetings of teachers are arranged by Education Officers at which teachers give their frank and free opinions and suggest measures for improvement. It has been rightly said, "These meetings provide for producers and Education Officers a valuable exchange of views between teachers who operate varied schemes of work and teach children on different backgrounds and abilities."[3]

The producers of school broadcasting look for the reactions of teachers on individual programmes. Therefore, they invite panels of teachers to report regularly on pre-paid report cards to be returned direct to the producer. Besides, the Council and individual producers receive a large number of letters from the teachers and pupils conveying comments both in praise and criticism on programmes they are using. Their suggestions and views are often found quite useful and enlightening for the producers.

A few Studies in various Countries

Although in the advanced countries of the world, a large number of studies have been conducted on various media according to Wilbur Schramm there is less research on the less expansive, less complex media, and especially on the older and better accepted media, partly because the need to evaluate them has seemed less urgent. In the case of instruction the great outpouring of media research in the 1950's Schramm has also pointed out that the studies in radio are very less in number compared to television. He

has briefly mentioned a few studies in educational radio which are given below.[4]

Lumley (1933) conducted a study with high school students learning foreign languages with the aid of radio which revealed that pronunciation of students who heard radio lessons was found better than that of students who did not. A Wisconsin Research Project in school radio (1942) was undertaken which showed that radio classes were significantly better in tests of ability. Heron and Ziebarth (1946) took up a study on learning from radio lectures compared with that from classroom lecture by the same teacher in college level psychology. But there was no significant difference in the results. NHK (1956) or the Japan Broadcasting Corporation conducted a study using radio to teach English and music to 3rd, 5th and 7th grades. This study reported learning gains in every case at or above level of conventionally taught classes. Constantive (1964) did the study in science taught by radio in elementary schools which showed that students gained on tne average 14 months in one school year on standardised test of scientific information and 15 months on standardised test on work study skills.

Research and Evaluation in India.

The National Workshop on Educational Broadcasting held under the joint auspices of the Ministry of Education and Culture, Government of India and UNESCO's Asian Programme of Educational Innovation For Development (APEID) on December 1-6, 1980 at New Delhi was represented by a cross-sectional participation of various states and national organisations of education and media. The Workshop discussed educational broadcasting and issues involved therein from various angles, particularly in the context of the Indian National Satellite (INSAT-1A) put into the orbit on April 10, 1982. There was a fruitful and meaningful discussion which resulted in a number of practical recommendations for effective planning, utilisation and evaluation of educational broadcasting. The Workshop Report, *inter alia*, mentioned that research and evaluation set-ups should be an

integral part of the educational broadcasting system to achieve the basic software objectives of the programmes. For improving programmes, quick, simple and effective feedback methods and systems should be developed. Long-term periodic assessment is necessary to measure impact in relation to objectives formulated at the planning stage. This long-term research and evaluation may be undertaken both by the educational broadcasting system internally and by external research agencies.[5]

One of the pioneering research studies was undertaken by Narendra Kumar in 1954-55 in connection with thesis work for his Master's Degree in Education at the University of London Institute of Education. The investigator conducted two surveys, one in the then state of Delhi and the other in the then state of Bombay on School Broadcasting. The main methods of his study were (i) visits to schools in Delhi during listening hour and (ii) reaction through correspondence i.e., responses to questionnaires in Bombay city. The major findings of his survey by visits are as follows:[6]

(1) In Delhi 92 schools out of a total of 323 had listening facilities.

(2) Out of the 57 schools visited, 44 had one radio set each, 13 were equipped with public address system, 7 had provided listening period in the time table, listening was occasional in case of 15 schools and rarely in case of 35 schools.

(3) In all listening schools, except three, reception was very poor. Teachers were found relaxing happily and the students busy gossiping.

(4) There was no provision for either preparation or follow up activities. Pre and post broadcast discussions were non-existent.

(5) Reasons for not listening were cited as (i) the school syllabus was overcrowded, (ii) there are many extra-curricular activities, (iii) because of the double shift system schools were too hardpressed for time, (iv)

absence of an audition to accommodate all the classes for listening.

(6). Lack of funds for installing a loudspeaker in each room and programmes were not of any special value and teachers felt that they could do better in most cases.

The survey of school broadcasting through questionnaire received from 40 out of 126 schools the following findings:

1. In Bombay out of 800 schools 402 had listening facilities.
2. 75 per cent of the schools used to listen the school broadcasting programmes regularly and 60 per cent casually.
3. Provision in the time-table for listening existed in 20 per cent of the schools.
4. In case of 28 per cent of schools, teachers used to prepare the class before broadcast, in 32 per cent of schools they used to conduct follow-up activities.
5. Reception was very poor.
6. Reasons for not listening to educational radio were: (i) time inconvenient, (ii) subjects chosen for programming general and difficult, (iii) presentation dull and too fast, (iv) too much time wasted in musical interludes, (v) too many extra-curricular activities.

On the basis of these findings, the investigator made the following recommendations:

1. Schools must be provided with powerful transmitters.
2. Presentation of the programmes must be lively and intelligible.
3. Teachers should be provided with detailed note.
4. The best voices available should present the script written by subject-experts.
5. Too many facts in a single talk should be avoided.
6. Sentence construction should be simple and the speed of the delivery slow.

The Listeners Research Unit of All India Radio conducted a series of "on-the-spot investigations" during 1962-1964 at Bombay, Nasik, Poona, Madras, Calcutta, Birbhum, Murshidabad and Bangalore. Most of the findings of these studies only corroborate those of Narendra Kumar's surveys conducted in 1954-55. Some highlights of the All India Radio studies are as follows:[7]

1. The teachers took occasional interest in school broadcast.
2. The school syllabi were over-crowded.
3. There was paucity of time even to complete the prescribed courses of studies.
4. The classes were over-crowded.
5. Educational system was examination-oriented.

Another survey conducted by All India Radio in 1972 showed that there was hardly any organised listening in schools. Major difficulties as revealed in this survey are (1) problem of maintenance of radio set, (2) lack of technical equipment like microphone and amplifiers, (3) want of suitable atmosphere for concentrated listening e.g., lack of space, over-crowded classrooms, (4) examination-mindedness of the teachers who did not consider educational radio as an aid and (5) lack of organised feedback of the impact of the school broadcast programmes.

The Centre for Educational Technology has been conducting a series of in-depth studies on instructional radio from the mid-seventies. The initial study was done in Jaipur (Rajasthan) where a very dismal picture of radio utilisation was revealed, as only 11 per cent of schools were found utilising radio. The next study was done in Jalgaon (Maharashtra) which revealed that as many as 92 per cent of primary schools covered by an action programme were found utilising radio against only 25 per cent of schools in the same district not covered under the programme. The single most important factor for greater acceptance of radio in the Jalgaon project schools was the existence of an infrastructure and organised

efforts of the project officials to look after various aspects of radio-listening activity in the schools.

This included provision and maintenance of radio sets in schools, organising workshops regularly for preparation of guidance notes for user teachers, supplying guidance notes to schools, supervising radio listening, obtaining feedback from schools and evaluating the programmes.

Besides organisational factors that are responsible for better utilisation of radio programmes other important variables are also felt responsible for successful radio utilisation. These variables are concerned with planning, production and scheduling of radio programmes Hence a comprehensive study was attempted at probing deeply into the procedures and practices followed by Akashvani, Delhi for programme planning and production and bringing out its strengths and weaknesses. Since various Stations followed the same pattern of programme planning and production, it was assumed that the findings of this study would also be applicable to other units.

The study was conducted by the Centre for Educational Technology, NCERT in 1977 and brought out its report in 1980. Data were collected through obsvervation techniques from a randomly drawn sample of 205 middle and secondary schools and by interviewing teachers, officials of Akashvani and Directorate of Education. Akashvani, Delhi used to broadcast for schools four days a week for 20 minutes on each day in the forenoon and repeat in the afternoon. Broadcasts were available on Hindi for classes VI and VIII, Social Studies for class VII and English for class IX once a week. Important findings of the study are as follows[8]

1. Akashvani had the total responsibility of programme planning and production. Planning of programmes was purely adhoc and not based on serious thinking on the part of educationists or felt needs of the schools. Involvement of the Directorate in Consultative Panel set up by the Akashvani for the purpose of programme planning seemed very limited.

2. For preparation of scripts, Akashvani depended upon outside resource persons including teachers. Script-writers were not briefed about the objectives and scope of lessons, only titles were indicated. This allowed for a great deal of subjectivity in preparing scripts, particularly in emphasising various learning points in a lesson.
3. The Directorate and the Akashvani did little in training scriptwriters for school radio. Training of user teachers was also a neglected area.
4. Akashvani did not preserve recordings of school programmes. All the programmes are produced afresh every year amounting to wastage of earlier efforts in producing them.
5. The Directorate did not emphasise the utilisation of radio programme in schools. Even it had neither identified the schools with listening facilities nor obtained any data about reactions of teachers and students.
6. About 12 per cent schools of the total sample and 14 per cent schools having radio sets made some use of radio programmes. However, all programmes were not utilised equally.
7. Listening schools were not much different from the non-listening schools except that government girls' schools had a tendency to use radio more frequently. Largely, radio utilisation was more a matter of initiative and interest on the part of individual principal/teacher rather than a matter of policy.
8. On an average, 70 students of 2-3 sections collected together at a common place for the purpose of listening to a broadcast. With this large number it was not always easy to maintain minimum discipline as would enable every one to listen attentively. Students sitting in rear positions were found restive and inattentive.

9. Reception of programmes on the receiving sets was poor in 4 per cent schools, "not so clear" in 28 per cent schools and "clear but not audible to all students" in another 12 per cent schools.

10. There was little evidence of pre-broadcast discussions conducted by the teachers. Post-broadcast discussions were held in 56 per cent listening schools only.

11. Only in 32 per cent cases there was some proximity between radio programmes and the teaching of those lessons in the class. Other radio lessons were placed wide apart from the time of their discussion in the class.

12. 40 per cent radio programmes were not related to class syllabus.

13. About half of the radio programmes were considered "interesting" and the other half "some what interesting."

14. The speed of presentation was fast in 32 per cent radio programmes; 36 per cent programmes contained too much information packed into them for students to comprehend all at one time; 8 per cent programmes fell into the other extreme of having few learning points.

15. Thirteen per cent schools in the sample did not have receiving facilities.

16. Time table being already too crowded to accommodate a period on radio lessons and radio sets being out of order for long were the commonly stated reasons for not using radio for school programmes. Non-availability of programme chart, lack of awareness of radio programmes were some other difficulties mentioned in this respect. But closer scrutiny showed that the underlying reason appeared to be lack of interest to use radio than anything else.

17. Although teachers recognised the potential of radio for giving better and new information to students and

felt that by listening to radio, they could improve their own knowledge of the subject matter, they felt that the medium did not use styles, efforts and techniques which the classroom teacher could not adopt easily. They did not accept that radio taught better than the class teacher and were critical of the difficult language and speed of presentation used in the broadcasts.

18. Students' initial level of achievement in respect to five programmes tested for their understandability was 32 to 42 per cent of maximum score value. After listening to the programmes, the pre-post test group gained on all programmes to an extent ranging from 7 to 11 per cent.

Another study was conducted by the Centre for Educational Technology, NCERT in the year 1980 on the educational radio programme for the schools and the role of State Educational Technology Cells. In this context, it may be necessary to mention that one important function of the State E.T. Cells has been to promote utilisation of various means, media and materials for expansion and improvement of education at all levels. Radio being a comparatively cheaper, but potential medium, All India Radio has been regularly broadcasting 7,000 school programmes every year from about 40 stations. But utilisation of these programmes by the schools was not satisfactory. As such after inception of E.T. Cells in various states during nineteen seventies, attempts were made to bring about improvement in the existing situations. It is found that concerted efforts should be made in three important aspects of school radio i.e., planning, production and utilisation of programmes. The important findings of this CET study which are mostly in the nature of "ought to" may be discussed as follows:[9]

Planning

1. Since Akashvani seems to have the major responsibility for planning of school broadcasts and involvement of the educationists is found limited, there are ad hoc

decisions about what should go on radio and for which age-group. Hence the Education Department should take up more responsibility in planning and for that purpose, E.T. Cells may set up their respective planning group and subject committees with adequate representation of practising teachers.

2. The planning group may consider the questions like (a) objectives, (b) content, (c) potentials and limitations of the medium, (d) transmission time, (e) listening facilities, (f) broadcasts, (g) supporting media and materials etc.
3. The subject committees may advise on details of radio topics, their scheduling, illustration, follow-up activities, materials for students and teachers and any other issues as suggested by the planning group.
4. The E.T. Cells should conduct some need assessment studies to identify the requirements of students and teachers for radio support. The findings would be useful for realistic planning of production.

Production

1. Wherever possible, E.T. Cells should do some prototype production for meeting specific educational objectives. Since at present most of the E.T. Cells do not have production facilities, they may work in close collaboration with Akashvani stations in planning the programmes, writing of scripts and even in production of programmes.
2. The E.T. Cells can organise training of scriptwriters in collaboration with the CET and Akashvani. There would also be follow-up action for fuller utilisation of the trained scriptwriters.
3. The E T. Cells should set up a practice of preparing detailed programme briefs for the scriptwriter as the existing practice of telling only topics of radio lesson allows a great deal of subjectivity.

4. Monitoring panels should be set up for getting comments of experts and teachers on quality of the programmes.
5. Since adequate feedback from schools is not forthcoming, the E.T. Cells should collect this information from schools and bring out a consolidated report. Instead of all schools commenting on all programmes, groups of schools may be invited to supply feedback on different programme series.

Utilisation

1. Need-based programmes that are interesting and comprehensible would be the first major step towards their acceptability by the schools.
2. E.T. Cells may encourage schools to go in for radio sets (a) by utilising school funds, through parent-teacher associations, (c) through public donations, (d) through donations by philanthropic institutions and individuals and (e) through assistance from international agencies like UNICEF.
3. A system should be developed in the education department to ensure early repair of sets and replacing batteries etc. A list of do-it-yourself tips may be publicised for minor repairs of radio.
4. Adequate awareness should be created among the schools by involving field supervisory staff in the school broadcast service and issuing regular circulars/communications by the education department through E.T Cells.
5. Training courses for user teachers should be organised in conducting radio listening in class, pre and post broadcast discussions, use of support materials and follow-up activities with the students.
6. Up-to-date informati n about schools having receiving facilities is not readily availabl in most of states. This should be done for planning school broadcasting and communicating with the listening schools.

7. Well designed evaluation studies on school radio would help E.T. Cells to build information base on school radio, determine status of utilisation of the medium and identify the factors that contributed to its success or impede its progress. Besides questionnaires, personal visits and interviews would be necessary for the purpose.

Since its very inception Educational Technology Cells, Orissa took active interest in educational broadcasting and conducted a number of studies on School Broadcast Programmes. One such study was undertaken on the programmes broadcast in the years 1974, 1975 and 1976 by All India Radio, Cuttack. Data were collected in relation to school programmes in various curricular subjects. The objectives of the study were mainly to evaluate the quality of the programmes and identify the problems faced by teachers in their effective utilisation. Questionnaire was the main instrument of collecting data and the following findings were made on analysis of these data.[10]

1. More weight was given on the subjects like General Science, English and Sanskrit.
2. The students were not usually exposed to the School Broadcast Programmes in their own classroom.
3. The teachers did not seem to have attended School Broadcast Programmes alongwith the pupils.
4. Most of the programmes were produced in the prosaic formats like narration and discussion.
5. Curricular topics were the theme of most of the programmes.
6. The voice of the presenters of most of the programmes was distinct and normal.
7. The programmes mostly contributed to the development of knowledge of teachers as well as students.
8. Pre and post broadcast discussions were not organised in most of the schools.

9. The English programmes had more scope for improvement, particularly in relation to pronunciation and content.

10. The programmes in General Science lacked improvement regarding presentation, elaboration and discussion.

Good listening sets and loudspeakers to each room may be provided for better reception.

In the year 1975 a 12-day In-service Teachers Training in Science (Primary) was organised in all 6 SITE states including Orissa. A multi-media package was used for such training and radio programmes were one of its components. The radio programmes used for the purpose were of two kinds: (a) enrichment and (b) motivational. A study was taken up by the Educational Technology Cell, Orissa for identifying the strengths and weaknesses of these programmes and how these programmes were appreciated by the teachers. Data were collected through questionnaire and personal interviews. A few important findings of the study are as follows:[11]

1. Radio programmes based on curriculum were liked by the participants.
2. Programmes presented in reasonably slow and steady speed were properly followed by the teachers.
3. Science experiments shown in some of the programmes were done with costly equipment and rare materials which could not be readily available in the locality. This practice should be discouraged.
4. Themes of day-to-day interest like electrical goods and simple manufacturing processes like soap making, matchbox or candle making would be more suitable for these science programmes.
5. Topics of ordinary and general nature were the subject matter of some programmes like "Hand" "Time" etc. This is not suitable.

An evaluative study of the School Broadcast Programmes was conducted by the Educational Technology Cell, Orissa during the year 1977. Data were collected mainly through questionnaire only on the programmes in English for class VIII. The main objectives of the study were to identify the nature and content of the programmes, to assess suitability of language, to know about the pre and post broadcast discussion and to ascertain the pupils' growth and teachers' professional growth.

Important findings of this study are as follows:[12]

1. The programmes were all syllabus-based.
2. The structures used in all the programmes were up to the standard.
3. The level of the language in nine out of eleven programmes was upto the standard.
4. When the programmes were presented too fast, the voice of the presenter became indistinct.
5. Most of the respondents had no idea about the follow up activities of the radio lessons.
6. Almost all programmes contributed to the growth of pupils in respect to their vocabulary, language, pronunciation and appreciation.
7. Pre-broadcast discussion was inadequate as a result of which students were not properly prepared for receiving the programmes.
8. Indifference of teachers was evident when about 50 per cent of them did not give suggestions for improvement of the programmes as requested.
9. Majority of respondents suggested for enhancing the duration of the School Broadcast Programmes.

It was felt that data collected through questionnaire were not only unreliable, but also inadequate. Moreover a lot of important evidence could be collected through on-the-spot visits of the schools at the time of broadcasting. Hence a proforma was developed and used by the investigators for collecting data in course of a series of visits done in 1981.

The objectives of the study were to get information about the provision of sets, to know about the extent of utilisation of programmes and to identify the problems faced by the schools. 39 high schools, 8 M.E. schools and 11 U.P. schools were brought under the purview of the study. The main findings of the study are as follows:[12]

1. 71.8 per cent of high schools, 12.5 per cent M.E. schools and no primary school possessed radio sets.
2. 61.5 per cent of high schools only had sets in working order.
3. 20 per cent of respondents from high schools expressed their inability to procure radio sets due to non-receipt of circulars and non-availability of funds.
4. 15.4 per cent of high schools only had kept separate periods for school broadcasting.
5. 10 per cent of high schools were utilising radio programmes regularly.
6. In 5 per cent of high schools only, students listened to radio programmes in classrooms.
7. In 10.3 per cent of high schools only pre and post broadcast discussions were being conducted.
8. Inadequacy of funds, non-availability of separate periods, non-receipt of circulars were some of the reasons for non-utilisation of school broadcasts.
9. Most of the respondents felt that extension lines should be provided to each room for enabling students to listen in the classroom.
10. Tape-recorders might be used in urban schools with multiple sections for recording the school broadcasts and playing back the same in classes according to convenience.

A number of evaluative studies of school broadcast programmes were undertaken by research scholars for their M.Ed. and Ph.D. degrees in various universities of the country. For an instance, B. Biswal conducted a study on developing strategies for effective utilisation of school broadcast programmes in Orissa for his Ph.D. degree under M.S. University

of Baroda in the year 1981-82. A few of the major findings of his study are as follows:[14]

1. Number of programmes broadcast for any particular grade was quite inadequate to cover the syllabus.
2. Subjects like Mathematics, Physiology and Hygiene, Agricultural Science etc., were totally neglected.
3. No planned approach was made to select the number of programmes for various grades.
4. Grade x did not have any programmes in the system.
5. Scriptwriters were not given training for writing suitable radio lessons.
6. 62 per cent of the schools were found not using the school broadcasting programmes at all.
7. In 46 per cent schools students used to listen to the radio programmes in the classrooms and in the remaining percentage of schools, pupils listened to the same in places like varandah, staff common room, headmaster's office, drama pandal and under the tree.
8. Only 13 per cent of the students reported that their teachers conducted pre and post broadcast activities, whereas 75 per cent of them felt the necessity of conducting such activities.

S. Das conducted a study of the problems and prospects of Secondary School Broadcasting Programmes in the Municipal area of Bhubaneswar for her M.Ed. degree under Utkal University in 1981. Although the study was very limited in scope and sampling, its findings were quite significant. Some of them are given below:[15]

1. English-medium schools had no motivation to procure radio sets as the school broadcast programmes are invariably in Oriya and based on different curriculum.
2. Lack of concern on the part of the higher authorities was primarily responsible for the sorry state of affairs prevailing in the schools.

3. There was no systematic provision for getting feedback from the listening schools on school broadcasts.
4. Lack of imagination and lack of interest on the part of the school authorities were no less responsible for poor utilisation of the School Broadcast Programmes.
5. A school having the shift system or facing accommodation problem or not having a big hall can provide listening of the school broadcast for students if it could procure and use a radio-cum-tape recorder for the purpose.

Prospects of Programmes Evaluation

It is evident from the above discussion that research studies are being undertaken in the field of educational radio by individuals and agencies and bringing to light various problems standing in the way of effective utilisation of educational broadcasts. Unless the findings and feedback of these studies are followed up, the medium cannot be utilised to the optimum. Continuous monitoring and feedback should constitute a component of entire built-in-system of educational broadcasting. Standing committees composed of educators, broadcasters, teachers and community representatives should be set up for evaluation and feedback. It would be better if some panels of enthusiastic teachers are formed to send their comments regularly on programmes in particular subjects so that the consolidated reactions would provide very meaningful feedback to the system. Thus, interdisciplinary as well as intradisciplinary approaches should be made in this field of research. In this context, School Broadcasting Council under the BBC seems to be a good model.

Short-term studies may be conducted to assess a particular programme or a series of programmes. These studies should use quick, simple, effective and on-the-spot methods of evaluation. With a view to measuring the impact of programmes in relation to objectives formulated at the planning stage or making some policy decisions affecting the entire

system significantly, long-term studies are to be undertaken by the outside agencies, preferably social science research organisations. These two types of studies may be either formative or summative depending on the nature of evaluation. The formative study is usually conducted at the initial stage of programme planning and production and the summative research is undertaken to assess the effectiveness of the existing programmes.

It is felt desirable to conduct some comprehensive as well as in-depth studies with adequate cross-section of sampling for providing reliable data as regards, strategies problems and prospects of educational broadcasting. Since our existing tools and techniques of evaluation are found to be inadequate, attempts should be made to develop new sensitive ones for studying the young audience and imaginative programmes.

Besides, some experimental projects thought to be undertaken for developing new programmes, support materials and the methods and efficacy of their use. It is better to take up such works in joint collaboration of media men, social science researchers and educators. But their sincerity of purpose, team spirit, punctuality and involvement should be ensured for success of the projects.

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20

EDUCATIONAL TELEVISION PROGRAMMES UNDER INSAT

The Indian National Satellite project is a multipurpose communication medium of great significance. It would promote unprecedented expansion of educational broadcasting facilities and accelerate the pace of national development through its various programmes with educational, social and cultural inputs. The INSAT project is mainly intended for rural audience in the less developed areas of the country. Radio and television programmes will easily reach all parts of the country and immensely benefit its vast population.

Nature and objectives of ETV Programmes

The radio and television facilities will be largely utilised for educational development, especially for widening access to education and reducing existing disparities between different regions of the country as well as various sections of its population. The television and radio programmes are sought to bring about an overall improvement in the quality of education, generate awareness of the problems of national significance and develop desirable values as positive attitudes among the children and youths in particular and people in general.

Since the INSAT TV service is primarily meant for the rural audience, the programmmes need reflect the local language and culture and fulfil the local needs and conditions in order to be more relevant, meaningful and effective. Active participation and involvement of the people in the

task of development can be achieved by encouraging people to share the production of programmes of their own. The focus of attention should be the rural child and the programmes must relate to his social, educational and emotional needs.

The radio and TV programmes must primarily help the universalization of elementary education which does not only mean instruction in reading, writing and arithmetic, but also many things required for effective day-to-day life and successful citizenship. The INSAT programme should aim at providing an alternative to formal system of education. It should also seek to acquire an independent status having its inputs in relation to clearly specified educational goals. In course of time children will be able to acquire significant viewing and listening skills of their own, so that educational TV and radio can be an effective medium of communication being free from the constraints of the formal teaching-learning situations. Educational Television can develop as an independent and purposeful educational channel for young people with general interest to others.

Programmes production should be decentralised and needbased. It should derive sustenance from the themes of national importance which are not properly covered by the school curriculum. These themes are, for example, national integration, health and nutritions, sanitation, preservation of the environment, population growth, energy conservation and so on. They should be treated with the general aim of widening the horizons of children, enriching their experiences, bringing about awareness regarding the society and the world where they live in and inculcating in them the right attitude and values.

Programmes should develop ability to explore, to do, to experiment, to discover self-reliance and resourcefulness among children. They should also be interesting as well as entertaining. They should be useful and attractive to children in schools and out of schools. Although it is visualized under the INSAT that the programmes should be made for the target group as a whole, programmes meant

for school child could be made for two separate age-groups, viz. 5-8 and 9-11 years. But for out of school children the needs and interests of the age-group 12-15 years should be taken into consideration for production of programmes.

The Study Group on INSAT Television Utilisation for Education and Development considered that "the main thrust of the programme to widen and enrich the child's horizons could best be achieved through bringing about in him an awareness of the country as it is today, with emphasis on development and change taking place and also by making him understand the history and culture of the country at large and of his own immediate environment. Therefore, history and culture and modern India should also be included among the identified themes." The Study Group has also rightly pointed out that in view of its demonstrative quality television should also be used for imparting or developing different kinds of instructional skills relevant to the children in the rural situation. Besides, they have summed up the attributes of the INSAT programmes as follows:

(i) motivate children towards learning and attending school or instructional centres

(ii) develop desirable attitudes and habits

(iii) create awareness of the community

(iv) contribute to the improvement of skills

(v) lead children to explore and to do

(vi) create awareness of the immediate and surrounding environment.

(vii) create awareness of the prevailing evils of society and efforts being made to erdicate them.

Besides students, teachers also would be provided with suitable TV programmes for their professional growth. Teachers, programmes would seek to widen their horizons of knowledge and skills. These programmes would provide enrichment as well as entertainment to the teachers. They would be the means of updating teacher's knowledge and

skills in various subject-areas and methodology. These programmes would provide in-service education for teachers. During SITE, multi-media package technique was found to be quite useful for teachers' training in science. Such attempts may be made as far as possible for improving the competence of teachers in teaching various advanced subjects.

Planning and Production

It was felt imperative that the user Ministries/Departments should take up increasing responsibilities for the production of programmes suitable for the rural children and there should be decentralized production of programmes. In this context, the Ministry of Education has decided that the production of educational programmes would be the responsibility of the educational authorities. This decision was taken in consultation with all concerned departments and agencies. The Study Group set up by the Ministry of Education considered the implications of this decision and recommended the establishment of programme production centres in the INSAT states of Andhra Pradesh, Orissa, Bihar, Maharashtra, Uttar Pradesh and Gujarat in a phased manner. It also laid down the policy, priorities, target audience, themes etc., for production of suitable ETV programmes. The Study Group also recommended a provision of about Rs 18/ crores in the 6th Plan for setting up ETV production centres and a Film Processing and Sound Transfer Unit in addition to about Rs 4.00 crores for strengthening the Centre for Educational Technology. The Planning Commission agreed to provide only Rs. 11.50 crorers. The Commission, however, assured that more funds would be made available during the mid-term review, if the progress of expenditure would be satisfactory.

The Ministry of Education has to follow the plans of the Ministry of Information and Broadcasting in setting up the Production Centres and installing as well as utilising necessary equipment. It has been decided to set up Production Centres in Andhra Pradesh and Orissa during the year 1982-83 and in other INSAT States in subsequent years

according to the availability of the equipment and preparedness of the State government. Assistance is likely to be made available from United Nations Development Programmes, United Kingdom, USA and Federal Republic of Germany for donating equipment and providing facilities for training the personnel.

The site for the Production Centres should preferably be located near other educational institutions of the State. The Production Centres would be located in the following places, generally the capitals of the concerned states.

Andhra Pradesh	Hyderabad
Bihar	Patna
Gujarat	Ahmedabad
Maharashtra	Pune
Orissa	Bhubaneswar
Uttar Pradesh	Lucknow

The Production Centres would be under the overall ui brella of the SCERT/SIE, but would have adequate functional freedom and autonomy to undertake the new tasks assigned to them. With a view to enabling the existing E.T. Cells to take up the additional functions and responsibilities under INSAT, it has been decided at the national level to amalgamate the Audio-visual Units with the E.T. Cells/Departments.

Prior to identifying a permanent site for the Production Centre, it is felt necessary to select a building for converting it into a temporary studio in view of INSAT facilities to be made available to the states of Andhra Pradesh and Orissa by August, 1982. The local Doordarshan Kendra should be consulted in selecting such a building and in recruiting personnel and in procuring hardware as well as software for Production Centres. The Centre for Educational Technology (would-be Central Institute of Educational Technology) would extend all assistance both academic and technical in all these matters in addition to providing training facilities for various levels of personnel to be employed in the system.

Besides, some personnel may be sent abroad for training in different aspects of production, planning, utilisation and evaluation. It has been decided that these trained and experienced persons would not be transferred and in very special cases the posts could be upgraded and the incumbent given higher scale and facilities. In fine, the Director, SCERT/SIE would work as the Liaison Officer for INSAT work in connection with ETV programmes.

As per the suggestion of the Ministry of Information and Broadcasting, the State government would set up an inter-departmental committee headed by the Chief Secretary for INSAT. Although the Education Department must be properly represented in this committee another advisory body be set up for educational TV programmes. This body would have representatives of the concerned organisation of the Education Department. There would be an advisory committee at the state level and another at the district level to advise on the type of programming. The programme schedules and strategy of transmission would be worked out in detail by the CIET. After considerable discussion, there has been proper distribution of sattellite time among the six states and fixation of summer as well as winter telecast timing for each state.

The Ministry of Information and Broadcasting would provide both DRS and VHF sets and due to shortage of funds, they are providing only 4,000 sets for distribution among the six states. In comparison to the massive investments in creating the ground segment and other infrastructure necessary for utilising INSAT TV capabilities the coverage would be extremely limited. The State government should take steps for supplying VHF sets to additional schools by budget provision and/or implementing various schemes through bank loans and grants-in-aid. Maharashtra has already taken initiative in providing sets to schools with bank loans. Besides, the Ministry of Education would supply two DNS sets per district, one for a primary teacher training and another for secondary training college. There is also a proviston of one DRS set for each SCERT/SIE.

The DRS sets would be maintained by ECIL and the VIF sets by the concerned state governments through creating a new infrastructure of giving this responsibility to the existing agency like Information and Public Relations Department. The Gujarat Government has already been doing this work satisfactorily.

With a view to identifying suitable topics of common interest and national importance for ETV programmes, a National Workshop is likely to be organised by the Central Institute of Educational Technology. Similar Workshops may be organised at the State level for identifying topics of local interest and special significance. The programme Advisory Committee may further work out the details of the content for various programmes and provide guidelines for the producers.

Planning of programmes should be a collaborative venture involving the educationists, subject specialists, educators, scriptwriters, producers and media experts. Producers of educational TV programmes should have adequate background of knowledge and experience about profile of the audience for whom they are required to produce programmes. They should be professionally trained in utilising the creative and technical resources of broadcasting. Prospective scriptwriters should be properly trained in writing for the media. They must be subject specialists or their scripts must be properly scrutinized by the subject specialists. Nevertheless they must have a flair for creative writing and knowledge about the needs and interests of the audience. The presenter of the programme should be a good communicator and not necessarily the scriptwriter himself. Educational TV programmes should not only be attractive, but also free from thematic and linguistic errors.

Utilisation and Evaluation

Availability of receiving sets is the first precondition for utilisation of educational TV programmes. Since it needs a huge expenditure for production and transmission of programmes, all attempts should be made for optimum utilisation of the same. Television user teachers should be given

adequate support and incentive for their as well as students benefits. Suitable support materials should be prepared and distributed to the TV user teachers for ensuring effective utilisation. The CIET would prepare a set of model support materials for the guidance of state governments which should provide the schools with these materials through translation, adoption, adaptation and developing new ones. The CIET would also organise training courses for key/resource persons from the States who would then conduct training courses for user teacher to enable them for properly operating the sets and pre and post telecast discussion. Television itself can be used for imparting such training effectively as well as efficiently along with other forms of training like workshops, group discussions and so on. Advance information should be provided to teachers by means of pamphlets and broadcasts giving details of programmes and their utilisation.

With a view to ensuring improvement of programmes, a constant feedback and evaluation service is essential. For improving programmes quick, simple, effective and on-the-spot methods of evaluation are useful. Besides, long-term assessment is necessary for measuring the impact of ETV programmes in relation to objectives formulated at the planning stage. The CIET at the national level and ET Cells/CIETs at the state level should continuously take up such long-term and short-term evaluation procedures for providing feedback to the producers and getting access to the needs and requirements of the target population.

The INSAT is a challenging national project and its experiments, inter alia, with television programmes will provide new light and insight into the viewing problems and conditions of the rural audience deprived of modern sophisticated media. Especially, it has a bright and promising future for educational expansion and improvement in the developing areas of the country. It is hoped that with wholehearted collaborative effort of all concerned, ETV programmes through INSAT will be crowned with great success.

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Of allied interest

DISTANCE EDUCATION
—Ed. S. Parmaji

Distance Education has certain purposes to fulfil in society. For those who are looking for improvement in qualifications, who want to supplement their university degrees with new knowledge or those who live in underdeveloped areas and have to catch up on decades of economic and cultural developments, the establishment of an infrastructure for open education suited to their special needs is imperative.

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THE SUBSTANCE AND PROBLEMS OF THE SEMESTER SYSTEM
—V.T. Patil

In recent years a great debate has been going on among educational administrators, teachers, students and the public about meaningful changes in the system of higher education in India. In this context the Semester System provides a major instrument for modernising our system of higher education. It is a truism to say that the development of a scientific and technological society largely depends upon a functional system of higher education.

The present study looks into the nature, structure and substance of the Semester System, its merits and drawbacks, relevance and significance in a period of transition from tradition to modernity.

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